

oxide, occurrence 1344-28-1, Aluminum oxide, occurrence 1344-43-0, Manganese oxide, occurrence 1345-25-1, Iron oxide, occurrence 7446-11-9, Sulfur trioxide, occurrence 7631-86-9, Silicon oxide, occurrence 7782-50-5, Chlorine, occurrence 12136-45-7, Potassium oxide, occurrence 13463-67-7, Titanium oxide, occurrence 14808-60-7, Quartz, occurrence 55200-87-8, Calcium antimonate
 RL: OCU (Occurrence, unclassified); OCCU (Occurrence)

(study of batch material processing and glassmaking technol. of 9th century B.C. artifacts from Northwest Iran)

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 2 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2002:827466 HCAPLUS

DN 137:326421

TI Hydrogenation of chloroprene-based polymers at high efficiency and suppressed corrosion on reactor inner **walls**

IN Masuko, Yoshihiro; Matsuda, Hidehiro

PA Denki Kagaku Kogyo Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 16 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002317001	A2	20021031	JP 2001-122395	20010420
PRAI	JP 2001-122395		20010420		
OS	MARPAT 137:326421				

AB C:C double bonds of chloroprene-based polymers are efficiently hydrogenated in the presence of hydrogenation catalysts, **metal oxides** and/or metal hydroxides. Preferably, the hydrogenation catalysts are metal complexes RuAB(CO)DmL2, RuEF(CO)Mn, RuGJM3, or ZYaZb (Ru = ruthenium; A = halo, carboxyl; B = H, Ph, carboxyl, styryl; D = CO, pyridine, benzonitrile; m = 0, 1; L = phosphine ligand PR3; R = alicyclic, alkyl; n = 2, 3; when n = 3, E = halo and F = H; when n = 2, E = halo, carboxyl and F = H, Ph, carboxyl; M = phosphine ligand PX3; X = Ph, C1-4 alkyl, alicyclic; G = halo, H; M = halo, carboxyl; Q = rhodium, nickel, palladium; Y = halo; Z = phosphine ligand PX3; X = same as above; a, b = integer satisfying a + b .ltoreq. 6 and b .gtoreq. 1). Thus, 99.5:0.5 chloroprene-1-chloro-1,3-butadiene copolymer rubber in PhMe was hydrogenated with 5.0-MPa H at 100 .+-. 1.degree. in the presence of (Ph3P)3Rh+ Cl-, PPh3 (additive), and Mg(OH)2 to give hydrogenated rubber with no.-av. mol. **wt.** 1.0 .times. 105. No corrosion on the used SUS 304 reactor was obsd.

IT Synthetic rubber, preparation

RL: IMF (Industrial manufacture); PREP (Preparation)

(chlorobutadiene-chloroprene, hydrogenated; hydrogenation of chloroprene-based polymers at high efficiency and suppressed corrosion on reactor inner **walls**)

IT Alkaline earth hydroxides

Oxides (inorganic), uses

RL: CAT (Catalyst use); USES (Uses)

(cocatalysts; hydrogenation of chloroprene-based polymers at high efficiency and suppressed corrosion on reactor inner **walls**)

IT Coordination compounds

RL: CAT (Catalyst use); USES (Uses)

(hydrogenation catalysts; hydrogenation of chloroprene-based polymers at high efficiency and suppressed corrosion on reactor inner **walls**)

IT Hydrogenation catalysts

(metal complexes; hydrogenation of chloroprene-based polymers at high efficiency and suppressed corrosion on reactor inner **walls**)

IT 1305-62-0, Calcium hydroxide, uses 1309-42-8, Magnesium hydroxide 1309-48-4, Magnesium oxide, uses **1317-61-9**, Iron oxide (Fe₃O₄), uses 17194-00-2, Barium hydroxide
 RL: CAT (Catalyst use); USES (Uses)
 (cocatalyst; hydrogenation of chloroprene-based polymers at high efficiency and suppressed corrosion on reactor inner **walls**)

IT 14694-95-2, Chlorotris(triphenylphosphine)rhodium 16971-33-8, Carbonylchlorohydridotris(triphenylphosphine)ruthenium(II)
 RL: CAT (Catalyst use); USES (Uses)
 (hydrogenation of chloroprene-based polymers at high efficiency and suppressed corrosion on reactor inner **walls**)

IT 57086-52-9DP, 1-Chloro-1,3-butadiene-chloroprene copolymer, hydrogenated
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (rubber; hydrogenation of chloroprene-based polymers at high efficiency and suppressed corrosion on reactor inner **walls**)

L16 ANSWER 3 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 2002:548457 HCAPLUS
 DN 138:57500
 TI Environmentally acceptable anticorrosive paints. Effect of components on anticorrosive properties of coatings
 AU Kaminska, Elzbieta; Zubielewicz, Malgorzata; Bordzilowski, Jacek; Schauer, Thadeus
 CS Inst. Przemyslu Tworzyw i Farb, Gliwice, Pol.
 SO Ochrona przed Korozja (2002), 45(5), 119-122
 CODEN: OPZKA8; ISSN: 0473-7733
 PB Wydawnictwo SIGMA-NOT
 DT Journal
 LA Polish
 AB Although much research was conducted, the formulation of anticorrosive waterborne coatings contg. non-toxic **pigments** is still problematic. There are also a lot of controversies on efficiency and the mode of performance of this kind of **pigments**. The effect of paint components on anticorrosive properties of coatings was investigated. Waterborne binders with different chem. nature and different non-toxic anticorrosive **pigments** were used in paint formulations. Thermomech. study and Hg film porosity tests were carried out. Protective characteristics were identified using salt spray and Prohesion chambers as well as using electrochem. (EIS, SVET) methods in the study. The test results showed that protective characteristics of paints depend on the chem. compn. of binders and the mechanism of film formation. Fatty-acid modified urethane dispersion has the best **barrier** properties. The impact of **pigments** on protective characteristics of the coatings is connected with their chem. compn. (interaction with the binder), with their phys. appearance and the level of pigmentation. The **pigments** with verified **barrier**-electrochem. action (calcium zinc phosphate, zinc ferrite) show better protective features. Other tested **pigments** participate in **barrier** protection which is the more evident the more homogeneous are qualities of the coating. The application of the statistical anal. of the results enables definition of the **wt.** of particular components of paints in affecting protective characteristics of the coatings, and selection of the optimal compn. mix as well as correlation between the methods that were used. Based on the comparison of correlation coeff., the Prohesion method was chosen as the most compatible with the electrochem. methods. The humidity cabinet was eliminated because the test results do not completely reflect protective characteristics of the coatings.

IT Coating materials
 (anticorrosive, water-thinned; effect of binders and **pigments**)

- on anticorrosive properties of coatings)
- IT Electric impedance
Elongation at break
Glass transition temperature
Porosity
Testing of materials
(effect of binders and **pigments** on anticorrosive properties of coatings)
- IT Alkyd resins
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(effect of binders and **pigments** on anticorrosive properties of coatings)
- IT Polyesters, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(epoxy; effect of binders and **pigments** on anticorrosive properties of coatings)
- IT Polyurethanes, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(fatty acid-modified; effect of binders and **pigments** on anticorrosive properties of coatings)
- IT Epoxy resins, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(polyester-; effect of binders and **pigments** on anticorrosive properties of coatings)
- IT 471-34-1, Calcium carbonate, uses 7727-43-7, Barium sulfate
RL: MOA (Modifier or additive use); USES (Uses)
(effect of binders and **pigments** on anticorrosive properties of coatings)
- IT 79-10-7D, Acrylic acid, esters, polymers with styrene 100-42-5D, Styrene, polymers with acrylic monomers
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(effect of binders and **pigments** on anticorrosive properties of coatings)
- IT **1309-37-1**, Ferric oxide, uses 7779-90-0, Zinc phosphate
11129-48-9, Iron zinc oxide 23209-61-2, Calcium zinc phosphate
RL: MOA (Modifier or additive use); USES (Uses)
(**pigment**; effect of binders and **pigments** on anticorrosive properties of coatings)
- L16 ANSWER 4 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 2001:728052 HCAPLUS
DN 136:30647
TI Surface chemistry and dispersion of magnetic **pigment** for a solventless process
AU Woo, Taeha; Huh, Jin Young; Nikles, David E.
CS Center for Materials for Information Technology, University of Alabama, Tuscaloosa, AL, 35487, USA
SO IEEE Transactions on Magnetics (2001), 37(4, Pt. 1), 1634-1636
CODEN: IEMGAQ; ISSN: 0018-9464
PB Institute of Electrical and Electronics Engineers
DT Journal
LA English
AB Coupling agents with a variable **spacer** length between the silane and the branch point were synthesized. The chem. bonding between the silane group and the particle surface was confirmed by the Si 2s and Si 2p peaks in the x-ray photoelectron spectra. The surface coverage of the

branched coupling agent with long **spacer** was larger than the branch with short **spacer**. A solventless formulation could be prepd. up to 30 vol. **percent** of the particle using the treated particles. The viscosity was shear rate dependent, showing a power law dependence for all formulations.

- IT Coating materials
(magnetic **pigment**; surface chem. and dispersion of magnetic **pigment** for solventless process for magnetic tape fabrication)
- IT Adhesion, physical
Binding energy
Coating process
Coupling agents
Magnetic tapes
Surface reaction
Thermogravimetric analysis
X-ray photoelectron spectroscopy
(surface chem. and dispersion of magnetic **pigment** for solventless process for magnetic tape fabrication)
- IT 7440-48-4P, Cobalt, uses
RL: MOA (Modifier or additive use); PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(surface chem. and dispersion of magnetic **pigment** for solventless process for magnetic tape fabrication)
- IT 68-12-2, DMF, uses
RL: NUU (Other use, unclassified); RCT (Reactant); RGT (Reagent); RACT (Reactant or reagent); USES (Uses)
(surface chem. and dispersion of magnetic **pigment** for solventless process for magnetic tape fabrication)
- IT 377753-20-3P 377753-21-4P
RL: PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
(surface chem. and dispersion of magnetic **pigment** for solventless process for magnetic tape fabrication)
- IT 1309-37-1P, Ferric oxide, uses
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(surface chem. and dispersion of magnetic **pigment** for solventless process for magnetic tape fabrication)
- IT 919-30-2, Aminopropyl triethoxysilane 7440-21-3, Silicon, reactions 377753-19-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(surface chem. and dispersion of magnetic **pigment** for solventless process for magnetic tape fabrication)
- RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 5 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 2001:507638 HCAPLUS
DN 135:80899
TI Preparation of low-softening point copper aluminosilicate glass compositions for use as sealing glass for borosilicate articles
IN Young, Dianna M.
PA Corning Incorporated, USA
SO PCT Int. Appl., 22 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI WO 2001049621 A1 20010712 WO 2000-US30225 20001102
W: CA, CN, JP, KR, US
RW: DE, FR, NL, TR
US 6391809 B1 20020521 US 2000-585135 20000601
US 2002103069 A1 20020801 US 2002-68684 20020206
US 6586087 B2 20030701
PRAI US 1999-174011P P 19991230
US 2000-585135 A 20000601
AB Copper aluminosilicate glass compns. having coeffs. of thermal expansion coeffs. of 20-82 x 10⁻⁷/.degree.C (over a range of 25-500.degree.C) and softening points of 660-1000.degree.C can be used as preformed sealing glass for borosilicate glass. In a vacuum lamp, a solder glass preform ring of copper aluminosilicate glass fits against a glass wall and a glass bead sleeve through which an electrode lead wire passes. The copper aluminosilicate glasses have a compns., in wt.%, of: SiO₂ 35-68, Al₂O₃ 3-25, B₂O₃ 2-26, R₂O 0-20, RO 1-30, CuO 2-33, F 0-4, MxOy 0-10, R₂O is an alkali metal oxide (Li₂O, Na₂O, or K₂O); RO is an alk. earth metal oxide (such as CaO, MgO, ZnO, SrO, and BaO) and MxOy is a transition metal oxide chosen from Co₂O₃, TiO₂, NiO, MnO₂, and Fe₂O₃. The copper aluminosilicate sealing glass can be preformed into disks, washers, tubes, ribbons, fibers, etc. which can be used for lighting applications, telecommunication devices, flat display panels and liq. crystal displays.
IT Seals (parts)
Solders
(copper aluminosilicate glass; prepn. of low-softening point copper aluminosilicate glass compns. for use as sealing glass for borosilicate articles)
IT Aluminosilicate glasses
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(copper aluminosilicate glass; prepn. of low-softening point copper aluminosilicate glass compns. for use as sealing glass for borosilicate articles)
IT Sealing glass
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)
(disk, tube, cane, ribbon, washer or fiber; prepn. of low-softening point copper aluminosilicate glass compns. for use as sealing glass for borosilicate articles)
IT Optical imaging devices
(flat panel; prepn. of low-softening point copper aluminosilicate glass compns. for use as sealing glass for borosilicate articles)
IT Electric lamps
(glass envelope; prepn. of low-softening point copper aluminosilicate glass compns. for use as sealing glass for borosilicate articles)
IT Liquid crystal displays
Thermal expansion
(prepn. of low-softening point copper aluminosilicate glass compns. for use as sealing glass for borosilicate articles)
IT Softening (mechanical)
(softening point; prepn. of low-softening point copper aluminosilicate glass compns. for use as sealing glass for borosilicate articles)
IT 1303-86-2, Boron oxide (B₂O₃), processes 1304-28-5, Barium oxide (BaO), processes 1305-78-8, Calcium oxide (CaO), processes 1308-04-9, Cobalt oxide (Co₂O₃) 1309-37-1, Iron oxide (Fe₂O₃), processes 1309-48-4, Magnesium oxide (MgO), processes 1313-13-9, Manganese oxide (MnO₂), processes 1313-59-3, Sodium oxide, processes 1313-99-1, Nickel oxide (NiO), processes 1314-11-0, Strontium oxide (SrO), processes 1314-13-2, Zinc oxide (ZnO), processes 1317-38-0, Cupric oxide, processes 7782-41-4, Fluorine, processes 12057-24-8, Lithium oxide

(Li₂O), processes 12136-45-7, Potassium oxide (K₂O), processes 13463-67-7, Titanium oxide (TiO₂), processes
 RL: PEP (Physical, engineering or chemical process); PROC (Process)
 (copper aluminosilicate glass; prepn. of low-softening point copper aluminosilicate glass compns. for use as sealing glass for borosilicate articles)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 6 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 2001:478705 HCAPLUS
 DN 135:188189
 TI Magnetoresistance of Half-Metallic Oxide Nanocontacts
 AU Versluijs, J. J.; Bari, M. A.; Coey, J. M. D.
 CS Physics Department, Trinity College, Dublin, Ire.
 SO Physical Review Letters (2001), 87(2), 026601/1-026601/4
 CODEN: PRLTAO; ISSN: 0031-9007
 PB American Physical Society
 DT Journal
 LA English
 AB Magnetoresistive effects $(R(0) - R(H))/R(H)$ exceeding 500[percent] are found at room temp. in a field of 7 mT in nanocontacts between Fe₃O₄ crystallites. The shape of the I(V) curve depends on field and the magnitude of the magnetoresistance is correlated with the resistance, the largest effects occurring when $R > 100$ k.OMEGA.. The explanation proposed involves hopping transport of spin-polarized electrons through a narrow domain **wall** pinned at the nanocontact; spin pressure on the domain **wall** pushes it out into the electrode, leading to the nonlinearity of the I(V) characteristic. Application of current-induced **wall** motion in a simple fast-switching magnetic memory element is proposed.
 IT Electric current-potential relationship
 Magnetic domain
 Magnetoresistance
 Nanostructures
 Tunnel junctions
 (magnetoresistance and I(V) curve of Fe₃O₄ nocontacts and explanation of data involves hopping transport of spin-polarized electrons through narrow domain **wall** pinned at nanocontact)
 IT Electric current
 (spin-polarized; magnetoresistance and I(V) curve of Fe₃O₄ nocontacts and explanation of data involves hopping transport of spin-polarized electrons through narrow domain **wall** pinned at nanocontact)
 IT 1317-61-9, Iron oxide (Fe₃O₄), processes
 RL: PEP (Physical, engineering or chemical process); PROC (Process)
 (magnetoresistance and I(V) curve of Fe₃O₄ nocontacts and explanation of data involves hopping transport of spin-polarized electrons through narrow domain **wall** pinned at nanocontact)
 RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 7 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 2001:352161 HCAPLUS
 DN 134:343540
 TI Metal oxide-doped borosilicate glass microspheres
 membrane for IR-activated diffusion of helium and hydrogen gases
 IN Shelby, James E.; Kenyon, Brian E.
 PA Praxair Technology, Inc., USA
 SO U.S., 11 pp.
 CODEN: USXXAM
 DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	US 6231642	B1	20010515	US 1999-288628	19990409
PRAI	US 1999-288628		19990409		
AB	A glass structure for controlled permeability of gases includes a glass vessel with walls and a hollow center for receiving a gas. The glass vessel consists of borosilicate glass microspheres which are formed from, by wt. , 30-96 % silica, 1-25 % B2O3, 0.5-20 % alumina, 0-20 % Na2O, 0-20 % K2O and 0-15 % CaO and incidental impurities. The glass microspheres also contains 0.1-10 wt.% of a metal oxide dopant (such as CuO or Fe3O4) selected from transition metals and rare earth metals for controlling diffusion of gases (such as helium or hydrogen) through the walls of the glass vessel upon exposure to a IR radiation source.				
IT	Rare earth oxides Transition metal oxides RL: MOA (Modifier or additive use); USES (Uses) (dopant, borosilicate glass; Metal oxide -doped borosilicate glass microspheres membrane for IR-activated diffusion of helium and hydrogen gases)				
IT	Diffusion Permeability (gas; Metal oxide -doped borosilicate glass microspheres membrane for IR-activated diffusion of helium and hydrogen gases)				
IT	Membranes, nonbiological (glass; Metal oxide -doped borosilicate glass microspheres membrane for IR-activated diffusion of helium and hydrogen gases)				
IT	Glass microspheres RL: PEP (Physical, engineering or chemical process); PROC (Process) (in membrane; Metal oxide -doped borosilicate glass microspheres membrane for IR-activated diffusion of helium and hydrogen gases)				
IT	IR radiation (membrane activation; Metal oxide -doped borosilicate glass microspheres membrane for IR-activated diffusion of helium and hydrogen gases)				
IT	Glass structure (membrane; Metal oxide -doped borosilicate glass microspheres membrane for IR-activated diffusion of helium and hydrogen gases)				
IT	Borosilicate glasses RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses) (membrane; Metal oxide -doped borosilicate glass microspheres membrane for IR-activated diffusion of helium and hydrogen gases)				
IT	1333-74-0, Hydrogen, processes 7440-59-7, Helium, processes RL: PEP (Physical, engineering or chemical process); PROC (Process) (Metal oxide -doped borosilicate glass microspheres membrane for IR-activated diffusion of helium and hydrogen gases)				
IT	1303-86-2, Boron oxide (B2O3), processes 1305-78-8, Calcium oxide (CaO), processes 1313-59-3, Sodium oxide, processes 1344-28-1, Alumina, processes 7631-86-9, Silica, processes 12136-45-7, Potassium oxide, processes RL: PEP (Physical, engineering or chemical process); PROC (Process) (borosilicate glass; Metal oxide -doped borosilicate glass microspheres membrane for IR-activated diffusion of helium and				

hydrogen gases)
 IT 1317-38-0, Cupric oxide, uses 1317-61-9, Iron oxide
 (Fe₃O₄), uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (dopant; **Metal oxide**-doped borosilicate glass
 microspheres membrane for IR-activated diffusion of helium and hydrogen
 gases)
 RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 8 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2001:85577 HCAPLUS

DN 134:135465

TI Lead-free phosphate glass composition with low melting point, glass
 composition for dielectric layer and **barrier rib**, and
 manufacture of back plate for plasma display panel

IN Ominato, Yasuhiro; Tomita, Takayuki; Okuno, Haruhiko

PA Okuno Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001031446	A2	20010206	JP 1999-207440	19990722
PRAI	JP 1999-207440		19990722		

AB The title phosphate glass compn. comprises P₂O₅ 20-40, Al₂O₃ 10-20, B₂O₃
 20-30, SiO₂ 0-10, ZnO 0-20, MgO 0-10, CaO 0-20, BaO 0-15, SnO₂ 0-5, ZrO₂
 0-5, TiO₂ 0-10, Li₂O + Na₂O + K₂O 0-10, and F₂ 0-3 wt.%. The
 glass compn., for formation of dielec. layers for covering address
 electrodes or formation of **barrier ribs** on back plate
 of plasma display panel, comprises 60-100 wt.% of the phosphate
 glass compn. and 0-40 wt.% of inorg. **pigments** and/or
 inorg. fillers. Method for manufg. the back plate by using the glass
 compn. is also claimed. Dielec. layers with high dielec. const. and
 withstand voltage and crack-free **barrier ribs** with
 high strength were obtained by using the glass compn.

IT Plasma display panels
 (Pb-free phosphate glass compn. with low m.p. for formation of dielec.
 layer and **barrier rib** on back plate of plasma
 display panel)

IT Phosphate glasses
 RL: DEV (Device component use); PEP (Physical, engineering or chemical
 process); PRP (Properties); TEM (Technical or engineered material use);
 PROC (Process); USES (Uses)
 (aluminum borophosphate; Pb-free phosphate glass compn. with low m.p.
 for formation of dielec. layer and **barrier rib** on
 back plate of plasma display panel)

IT Electric insulators
 (coatings; Pb-free phosphate glass compn. with low m.p. for formation
 of dielec. layer and **barrier rib** on back plate of
 plasma display panel)

IT 1344-28-1, Alumina, processes 7631-86-9, Silica, processes
 RL: DEV (Device component use); MOA (Modifier or additive use); PEP
 (Physical, engineering or chemical process); PRP (Properties); TEM
 (Technical or engineered material use); PROC (Process); USES (Uses)
 (aluminum borophosphate, filler; Pb-free phosphate glass compn. with
 low m.p. for formation of dielec. layer and **barrier
 rib** on back plate of plasma display panel)

IT 13463-67-7, Titania, processes

RL: DEV (Device component use); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(aluminum borophosphate, **pigment**; Pb-free phosphate glass compn. with low m.p. for formation of dielec. layer and **barrier rib** on back plate of plasma display panel)

IT 1303-86-2, Boron oxide (B2O3), processes 1304-28-5, Barium oxide (BaO), processes 1305-78-8, Calcium oxide (CaO), processes 1309-48-4, Magnesium oxide (MgO), processes 1313-59-3, Sodium oxide (Na2O), processes 1314-13-2, Zinc oxide (ZnO), processes 1314-23-4, Zirconia, processes 7782-41-4, Fluorine, processes 12057-24-8, Lithium oxide (Li2O), processes 12136-45-7, Potassium oxide (K2O), processes 18282-10-5, Tin oxide (SnO2)

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(aluminum borophosphate; Pb-free phosphate glass compn. with low m.p. for formation of dielec. layer and **barrier rib** on back plate of plasma display panel)

IT 1314-56-3, Phosphorus oxide (P2O5), processes

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(glass, aluminum borophosphate; Pb-free phosphate glass compn. with low m.p. for formation of dielec. layer and **barrier rib** on back plate of plasma display panel)

IT **1308-38-9**, Chromium oxide (Cr2O3), uses **1317-38-0**, Copper oxide (CuO), uses

RL: MOA (Modifier or additive use); USES (Uses)

(**pigment**; Pb-free phosphate glass compn. with low m.p. for formation of dielec. layer and **barrier rib** on back plate of plasma display panel)

L16 ANSWER 9 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2000:313606 HCAPLUS

DN 132:327739

TI Plasma display having multilayer **barrier ribs** and manufacture of the display

IN Iguchi, Yuichirou; Iwanaga, Keiji; Nohura, Takahiro

PA Toray Industries, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000133139	A2	20000512	JP 1998-301262	19981022
PRAI	JP 1998-301262		19981022		

AB The display has the **barrier ribs** involving the top layer with refractive index n1 and the bottom layer with n2 at -0.1.ltoreq. n2 - n1 .ltoreq.0.1. The top layer is preferably made of a glass contg. oxide of Ru, Cr, Fe, Co, Mn, Cu, and/or Ni. Both the top and the bottom glass layers preferably contain alkali **metal (oxide)**. The display is manufd. by applying a paste contg. 40-90 wt.% glass having n2 on a substrate, applying another paste contg. 40-90 wt.% glass having n1 and 1-15 wt.% inorg. black **pigment**, exposing through a photomask, developing, and firing. The **barrier ribs** contribute to improvement of contrast and brightness of the display.

IT Glass, uses

RL: DEV (Device component use); USES (Uses)
 (aluminum barium boron lithium magnesium silicon zinc; manuf. of plasma display involving formation of multilayer glass **barrier rib** with difference of refractive index)

IT Glass, uses

RL: DEV (Device component use); USES (Uses)
 (aluminum bismuth boron chromium cobalt iron silicon sodium titanium zinc zirconium; manuf. of plasma display involving formation of multilayer glass **barrier rib** with difference of refractive index)

IT Plasma display panels

(manuf. of plasma display involving formation of multilayer glass **barrier rib** with difference of refractive index)

IT Glass, uses

RL: DEV (Device component use); USES (Uses)
 (manuf. of plasma display involving formation of multilayer glass **barrier rib** with difference of refractive index)

IT Alkali **metal oxides**

Alkali metals, uses

RL: MOA (Modifier or additive use); USES (Uses)
 (manuf. of plasma display involving formation of multilayer glass **barrier rib** with difference of refractive index contg.)

IT 1308-04-9, Cobalt oxide (Co₂O₃) **1308-38-9**, Chromium oxide

(Cr₂O₃), uses **1309-37-1**, Iron oxide (Fe₂O₃), uses 7439-96-5, Manganese, uses 7440-02-0, Nickel, uses 7440-18-8, Ruthenium, uses 7440-50-8, Copper, uses

RL: MOA (Modifier or additive use); USES (Uses)
 (manuf. of plasma display involving formation of multilayer glass **barrier rib** with difference of refractive index contg.)

L16 ANSWER 10 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2000:196584 HCAPLUS

DN 132:241180

TI Deodorant and antibacterial coatings and boards

IN Taira, Yukinari; Fukuhara, Yukinori; Miyamoto, Osamu; Tokita, Kazuo; Abe, Masayuki; Kumasawa, Noriaki; Kobayashi, Akira

PA Taiheiyo Tanko K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000086325	A2	20000328	JP 1998-299007	19980914
PRAI	JP 1998-299007		19980914		

AB The title coatings comprise (A) zeolite ore powder with .ltoreq.1 mm diam. contg. SiO₂ 65-75, Al₂O₃ 10-15, and .gtoreq.2 transition **metal oxides** (e.g., Fe, Ti, Co, Mn, Ni, and Cu oxides) 0.1-12 **wt** % 15-70, (B) shale powder 25-80, and (C) quicklime 3-9 **wt**%. The boards comprise a gel contg. the above coating compn. and 20-40 **wt**% water, which is coated on the one side of reinforcements (paper, wood sheets, or nonwoven fabrics) or sandwiched between the reinforcements and dried to solidify for integration. The articles absorb moisture and odor and are esp. suitable for ceilings and **walls** of buildings.

IT Coating materials

(bactericidal; deodorant and antibacterial coatings and boards contg. zeolite, shale, and quicklime for construction materials)

IT Deodorants
(coatings; deodorant and antibacterial coatings and boards contg. zeolite, shale, and quicklime for construction materials)

IT Antibacterial agents
Ceilings
Construction materials
Walls (construction)
(deodorant and antibacterial coatings and boards contg. zeolite, shale, and quicklime for construction materials)

IT Shale
Zeolite-group minerals
RL: BUU (Biological use, unclassified); TEM (Technical or engineered material use); BIOL (Biological study); USES (Uses)
(deodorant and antibacterial coatings and boards contg. zeolite, shale, and quicklime for construction materials)

IT Nonwoven fabrics
Paper
Wood
(reinforcements; deodorant and antibacterial coatings and boards contg. zeolite, shale, and quicklime for construction materials)

IT 1305-78-8, Calcium oxide, biological studies
RL: BUU (Biological use, unclassified); TEM (Technical or engineered material use); BIOL (Biological study); USES (Uses)
(deodorant and antibacterial coatings and boards contg. zeolite, shale, and quicklime for construction materials)

IT **1309-37-1**, Ferric oxide, biological studies 1313-99-1, Nickel oxide, biological studies 1344-70-3, Copper oxide 11104-61-3, Cobalt oxide 11129-60-5, Manganese oxide 13463-67-7, Titanium oxide, biological studies
RL: BUU (Biological use, unclassified); TEM (Technical or engineered material use); BIOL (Biological study); USES (Uses)
(zeolites contg.; deodorant and antibacterial coatings and boards contg. zeolite, shale, and quicklime for construction materials)

L16 ANSWER 11 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1999:748578 HCAPLUS

DN 131:340697

TI Low-melting-point phosphate glass powder, lead-free glass composition containing it, **barrier rib** of plasma display device obtained from the composition, and its manufacture

IN Higo, Toru; Nishiwaki, Kenichi; Okuno, Haruhiko

PA Okuno Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11322365	A2	19991124	JP 1998-128493	19980512
PRAI	JP 1998-128493		19980512		
AB	The low-m.p. glass powder comprises P2O5 45-60, ZnO 30-40, TiO2 1-10, CaO 0-15, and MgO 0-15 mol% (CaO + MgO = 1-15 mol%). The glass compn. comprises the above glass powder 50-99, an inorg. pigment 1-25, and an inorg. filler 0-25 wt.%. The barrier rib is manufd. by applying the above compn. on a backing plate for a plasma display panel, followed by firing it. The nontoxic compn. gives high-d. and alkali-resistant barrier ribs without warpage and crack formation.				
IT	Plasma display panels (manuf. of Pb-free glass barrier rib contg. zinc				

titanophosphate-based low-m.p. glass powder compn. for plasma display panel)

IT Phosphate glasses
 RL: DEV (Device component use); USES (Uses)
 (zinc titanophosphate; manuf. of Pb-free glass **barrier rib** contg. zinc titanophosphate-based low-m.p. glass powder compn. for plasma display panel)

IT 1344-28-1, Alumina, uses 12068-40-5, .beta.-Spodumene 19497-94-0, .beta.-Eucryptite 60676-86-0, Fused silica
 RL: MOA (Modifier or additive use); USES (Uses)
 (filler; manuf. of Pb-free glass **barrier rib** contg. zinc titanophosphate-based low-m.p. glass powder compn. for plasma display panel)

IT 1305-78-8, Calcia, uses 1309-48-4, Magnesia, uses 1314-13-2, Zinc oxide, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (glass component; manuf. of Pb-free glass **barrier rib** contg. zinc titanophosphate-based low-m.p. glass powder compn. for plasma display panel)

IT 1308-38-9, Chromium oxide (Cr2O3), uses 1317-38-0, Copper oxide (CuO), uses 13463-67-7, Titania, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (pigment; manuf. of Pb-free glass **barrier rib** contg. zinc titanophosphate-based low-m.p. glass powder compn. for plasma display panel)

L16 ANSWER 12 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1998:88147 HCAPLUS

DN 128:195882

TI Liquid compositions and method for treating, preserving, protecting, and, optionally, decorating porous rigid supports such as tiles, especially with respect to the development of fungi, scum, and lichens and the like

IN Nevers, Gils

PA Sarpap Sa, Fr.

SO Fr. Demande, 12 pp.

CODEN: FRXXBL

DT Patent

LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2748016	A1	19971031	FR 1996-5176	19960424
	FR 2748016	B1	19980605		
PRAI	FR 1996-5176		19960424		
AB	The compns. comprise a liq. fatty substance, .gtoreq.1 volatile solvents dissolved in the fatty substance, .gtoreq.1 org. salts of an oxide, and .gtoreq.1 substances having fungicidal properties. The compns. are applied to, and allowed to penetrate into, the porous surfaces, and the excess material is wiped off. These compns. are esp. suitable for treating garden terraces, tiled walls , etc. A compn. contained linseed oil 40, polyoxy-Al stearate 5, iodocarbamate 0.15, and white spirit 54.85 wt.%.				
IT	Materials (fatty, liq.; in fungicide-contg. liq. compns. for treating, preserving, protecting, and, optionally, decorating porous materials)				
IT	Liquids (fatty; in fungicide-contg. compns. for treating, preserving, protecting, and, optionally, decorating porous materials)				
IT	Porous materials Slate (fungicide-contg. liq. compns. for treating, preserving, protecting,				

and, optionally, decorating)

IT Quaternary ammonium compounds, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (fungicides; in liq. compns. for treating, preserving, protecting, and,
 optionally, decorating porous materials)

IT Fungi
 Lichen
 (growth prevention of; fungicide-contg. liq. compns. for treating,
 preserving, protecting, and, optionally, decorating porous materials
 for)

IT Linseed oil
 Paraffin oils
 RL: NUU (Other use, unclassified); TEM (Technical or engineered material
 use); USES (Uses)
 (in fungicide-contg. compns. for treating, preserving, protecting, and,
 optionally, decorating porous materials)

IT **Pigments**, nonbiological
 (in fungicide-contg. liq. compns. for treating, preserving, protecting,
 and, optionally, decorating porous materials)

IT Fungicides
 (in liq. compns. for treating, preserving, protecting, and, optionally,
 decorating porous materials)

IT Tiles
 (porous; fungicide-contg. liq. compns. for treating, preserving,
 protecting, and, optionally, decorating)

IT Petroleum spirits
 RL: NUU (Other use, unclassified); TEM (Technical or engineered material
 use); USES (Uses)
 (solvent; in fungicide-contg. liq. compns. for treating, preserving,
 protecting, and, optionally, decorating porous materials)

IT Volatile substances
 Volatile substances
 (solvents; in fungicide-contg. liq. compns. for treating, preserving,
 protecting, and, optionally, decorating porous materials)

IT Solvents
 Solvents
 (volatile; in fungicide-contg. liq. compns. for treating, preserving,
 protecting, and, optionally, decorating porous materials)

IT 60207-90-1, Propiconazole 82179-12-2, Carboniodidic acid 94361-06-5,
 Cyproconazole 107534-96-3, Tebuconazole
 RL: MOA (Modifier or additive use); USES (Uses)
 (fungicide; in liq. compns. for treating, preserving, protecting, and,
 optionally, decorating porous materials)

IT 637-12-7D, Stearic acid, aluminum salt, basic 29012-39-3
 RL: MOA (Modifier or additive use); USES (Uses)
 (in fungicide-contg. liq. compns. for treating, preserving, protecting,
 and, optionally, decorating porous materials)

IT **1309-37-1**, Red iron oxide, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (**pigment**; in fungicide-contg. liq. compns. for treating,
 preserving, protecting, and, optionally, decorating porous materials)

IT 142-17-6D, Oleic acid, calcium salt, basic 645-17-0D, Linoleic acid,
 aluminum salt, basic 688-37-9D, Oleic acid, aluminum salt, basic
 1592-23-0D, Stearic acid, calcium salt, basic 5146-98-5D, Aluminum
 adipate, basic 19704-83-7D, Linoleic acid, calcium salt, basic
 22322-28-7D, Adipic acid, calcium salt, basic
 RL: MOA (Modifier or additive use); USES (Uses)
 (solvent; in fungicide-contg. liq. compns. for treating, preserving,
 protecting, and, optionally, decorating porous materials)

IT 79-01-6, Trichloroethylene, uses 127-18-4, Perchloroethylene, uses
 25323-30-2, Dichloroethylene

RL: NUU (Other use, unclassified); USES (Uses)
 (solvent; in fungicide-contg. liq. compns. for treating, preserving,
 protecting, and, optionally, decorating porous materials)

L16 ANSWER 13 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1997:610967 HCAPLUS

DN 127:221129

TI Catalysts in the form of cylindrical hollow granules for the
 dehydrogenation of ethylbenzene to styrene and preparation thereof

IN Rubini, Carlo; Cavalli, Luigi; Conca, Esterino

PA Montecatini Tecnologie S.R.L., Italy; Sued Chemis MT S.R.L.

SO Eur. Pat. Appl., 9 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 794004	A1	19970910	EP 1997-103427	19970303
	EP 794004	B1	20030611		
	R: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, NL, PT, SE				
	AT 242660	E	20030615	AT 1997-103427	19970303
	TW 444003	B	20010701	TW 1997-86102554	19970304
	CA 2199218	AA	19970908	CA 1997-2199218	19970305
	AU 9715103	A1	19970911	AU 1997-15103	19970305
	AU 716285	B2	20000224		
	HR 970129	B1	20020430	HR 1997-970129	19970305
	JP 10000359	A2	19980106	JP 1997-51929	19970306
	HU 218961	B	20010129	HU 1997-554	19970306
	NO 9701062	A	19970909	NO 1997-1062	19970307
	BR 9701231	A	19980825	BR 1997-1231	19970307
	RU 2167711	C2	20010527	RU 1997-103569	19970307
	SK 282102	B6	20011106	SK 1997-304	19970307
	CN 1161882	A	19971015	CN 1997-104846	19970308
	CN 1085951	B	20020605		
	US 6166280	A	20001226	US 1997-814191	19970310
PRAI	IT 1996-MI447	A	19960308		
AB	Title catalysts, having no macroporosities with a radius of more than 50,000 .ANG. and/or high mech. resistance to axial breaking and to abrasion, comprise (a) ferric oxide as active component and (b) promoters chosen among oxides of alk. or alk.-earth metals, oxides of elements of the lanthanide series, and chromium, tungsten, and molybdenum oxides. Thus, a 4-mm long cylindrical granular catalyst with a 2-mm diam. through hole was prep'd. by compression-molding of the powder comprising Fe ₂ O ₃ 76.1, CeO ₂ 6.5, MgO 2.5, WO ₃ 0.9, and K ₂ O 14.0 wt .% by using stearic acid as external lubricant, which was applied to the wall of the molding chamber and to the plungers of the mold, and calcination at 700.degree. for 2 h. This catalyst had apparent d. 1.01 g/mL, axial ultimate tensile strength 13.4 N/particle, conversion from ethylbenzene to styrene at 570.degree. 54.66%, and molar selectivity at 570.degree. 93.34%.				
IT	Dehydrogenation catalysts				
	Lubricants				
	(prepn. of cylindrical hollow granular catalyst for dehydrogenation of ethylbenzene to styrene)				
IT	Molding				
	(prepn. of cylindrical hollow granular catalyst for dehydrogenation of ethylbenzene to styrene by)				
IT	Alkali metal oxides				
	Alkaline earth oxides				
	Rare earth oxides				

- RL: CAT (Catalyst use); USES (Uses)
(promoters; prepn. of cylindrical hollow granular catalyst for dehydrogenation of ethylbenzene to styrene)
- IT 100-42-5P, Styrene, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(dehydrogenation of ethylbenzene to styrene using cylindrical hollow granular catalyst)
- IT 100-41-4, Ethylbenzene, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(dehydrogenation of ethylbenzene to styrene using cylindrical hollow granular catalyst)
- IT 57-11-4, Stearic acid, uses 557-04-0, Magnesium stearate
RL: TEM (Technical or engineered material use); USES (Uses)
(lubricant; prepn. of cylindrical hollow granular catalyst for dehydrogenation of ethylbenzene to styrene)
- IT 1309-37-1, Ferric oxide, uses
RL: CAT (Catalyst use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(prepn. of cylindrical hollow granular catalyst for dehydrogenation of ethylbenzene to styrene)
- IT 1306-38-3, Cerium oxide, uses 1308-38-9, Chromium oxide, uses 1309-48-4, Magnesium oxide, uses 1313-27-5, Molybdenum oxide, uses 1314-35-8, Tungsten oxide, uses 12136-45-7, Potassium oxide, uses
RL: CAT (Catalyst use); USES (Uses)
(promoter; prepn. of cylindrical hollow granular catalyst for dehydrogenation of ethylbenzene to styrene)
- L16 ANSWER 14 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1997:239160 HCAPLUS
DN 126:348777
TI The behavior of Cu-xNi (x = 10 to 40 wt%) alloys in alkaline solutions containing chloride ions
AU Milosev, I.; Metikos-Hukovic, M.
CS J. Stefan Inst., Ljubljana, 1001, Slovenia
SO Electrochimica Acta (1997), 42(10), 1537-1548
CODEN: ELCAAV; ISSN: 0013-4686
PB Elsevier
DT Journal
LA English
AB An electrochem. study in combination with microscopic study and photopotential measurements was performed for Cu-xNi alloys (x = 10 to 40%) and Cu and Ni metals in slightly alk. soln., pH = 9.2. Cu-xNi alloys behave similarly to copper metal. The general compn. of the passive layer can be described by an outer CuO/Cu(OH)₂ layer overlying a Cu₂O **barrier** layer, which contains incorporated nickel cations. The results are discussed with respect to electrochem. reactions occurring both at the **metal/oxide** and at the oxide/electrolyte interfaces. Interesting behavior of Cu-xNi alloys is obsd. in the presence of chloride ions, where passive layers formed on these materials suffer localized breakdown. A general relation $E_c = a + b \log c_{NaCl}$ is established in all cases, however, with consts. a and b being strongly dependent on the nickel content in the alloy and the chloride concn. range. A crit. chloride concn., c_{crit} , exists below which the resistance to localized corrosion increases with decreasing nickel content, and above which it increases with increasing nickel content. The results are discussed in terms of segregation of the alloying element (Ni), formation of charged solutes and their subsequent complexing with mobile cation vacancies, i.e. according to the Solute Vacancy Interaction Model (SVIM).
- IT Passivity
(breakdown of copper-nickel alloys in slightly alk. soln. contg. chloride)

IT Borates
 RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)
 (corrosion of copper-nickel alloys in chloride-contg. borate soln. studied by electrochem. and photopotential measurements)

IT Corrosion
 (of copper-nickel alloys in borate buffer soln. with and without chloride)

IT Anodic polarization
 Cyclic voltammetry
 (of copper-nickel alloys in borate buffer soln. with and without chloride: passive film formation and breakdown)

IT Passive films
 (on copper-nickel alloys in borate buffer soln. with and without chloride)

IT Photovoltage
 (on copper-nickel alloys in slightly alk. soln.)

IT 7440-02-0, Nickel, properties 7440-50-8, Copper, properties 11101-30-7
 11115-20-1 11122-98-8 12621-45-3
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
 (cyclic voltammetry and photopotentials in slightly alk. soln. with and without chloride: passive film formation and breakdown)

IT 16887-00-6, Chloride, properties
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
 (cyclic voltammetry and photopotentials of copper-nickel alloys in slightly alk. soln. with and without chloride: passive film formation and breakdown)

IT 37195-93-0, Copper chloride oxide $\text{Cu}_3\text{Cl}_2\text{O}_2$
 RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)
 (formation in corrosion of copper-nickel alloys in borate buffer soln. contg. chloride)

IT 1317-38-0, Copper oxide CuO , properties 1317-39-1, Copper oxide Cu_2O , properties 20427-59-2, Copper hydroxide $\text{Cu}(\text{OH})_2$
 RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)
 (formation on copper-nickel alloys in slightly alk. soln.)

L16 ANSWER 15 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1997:20987 HCAPLUS

DN 126:64220

TI Magnet-containing coating for building components

IN Scheybal, Cornelius F.

PA Scheybal, Cornelius F., Austria

SO Ger. Offen., 4 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19619012	A1	19961114	DE 1996-19619012	19960510
PRAI	AT 1995-803		19950512		

AB A coating for **walls** and floors consists of 2 layers. The bottom layer contains embedded permanent magnets. The coating is deposited on the surfaces (e.g., wood, plastic) precoated by spraying or brushing with a layer contg. 40-80 **wt.%** dispersed ferro- and ferrimagnetic particles 100-200 μm diam. and balance polymer binder as an acrylate resin, fillers, **pigments**, dispersants, and emulsifiers. The

magnetic particles are Fe or Fe alloys. The magnetic force between the substrate and coating insures a reliable bonding.

IT Magnetic materials

RL: NUU (Other use, unclassified); USES (Uses)
(in coating for building components)

IT Construction materials

Floors

Walls (construction)

RL: TEM (Technical or engineered material use); USES (Uses)
(magnet-contg. coating for)

IT Coating materials

RL: TEM (Technical or engineered material use); USES (Uses)
(magnetic coating for building components)

IT Iron alloy

RL: NUU (Other use, unclassified); USES (Uses)
(in magnetic coating for building components)

IT **1309-38-2**, Magnetite, uses 7439-89-6, Iron, uses

RL: NUU (Other use, unclassified); USES (Uses)
(in magnetic coating for building components)

L16 ANSWER 16 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1996:497263 HCAPLUS

DN 125:148058

TI Corrosion prevention of steel ballast tanks of ships

IN Kishikawa, Hiroshi; Yuki, Hideaki; Kamimura, Takayuki; Amaya, Takashi

PA Sumitomo Metal Ind, Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 08142979	A2	19960604	JP 1994-282351	19941117
PRAI	JP 1994-282351		19941117		

AB The inner **walls** of steel ballast tanks are coated with corrosion-inhibiting paint contg. .gtoreq.5 wt.% corrosion-inhibiting **pigments** at a dry thickness 10-50 .mu.m, and the void part of the tanks is filled with an inert gas to prevent corrosion of the structural steel parts.

IT Corrosion prevention

Ships

(corrosion prevention of steel ballast tanks of ships by coating with corrosion-inhibiting paints contg. corrosion-inhibiting **pigments**)

IT Epoxy resins, uses

RL: TEM (Technical or engineered material use); USES (Uses)
(paint base; corrosion prevention of steel ballast tanks of ships by coating with corrosion-inhibiting paints contg. corrosion-inhibiting **pigments**)

IT Vinyl acetal polymers

RL: TEM (Technical or engineered material use); USES (Uses)
(butyrals, paint base; corrosion prevention of steel ballast tanks of ships by coating with corrosion-inhibiting paints contg. corrosion-inhibiting **pigments**)

IT 12597-69-2, Steel, processes 70747-77-2, processes

RL: PEP (Physical, engineering or chemical process); PROC (Process)
(corrosion prevention of steel ballast tanks of ships by coating with corrosion-inhibiting paints contg. corrosion-inhibiting **pigments**)

IT 11099-06-2, Ethyl silicate polymer

RL: TEM (Technical or engineered material use); USES (Uses)
 (paint base; corrosion prevention of steel ballast tanks of ships by coating with corrosion-inhibiting paints contg. corrosion-inhibiting **pigments**)

IT 471-34-1, Calcium carbonate, uses **1309-37-1**, Ferric oxide, uses 7440-66-6, Zinc, uses 7738-94-5, Chromic acid (H₂CrO₄) 11119-70-3, Lead chromate 13530-65-9, Zinc chromate 14807-96-6, Talc, uses

RL: TEM (Technical or engineered material use); USES (Uses)
 (**pigments**; corrosion prevention of steel ballast tanks of ships by coating with corrosion-inhibiting paints contg. corrosion-inhibiting **pigments**)

L16 ANSWER 17 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1995:701922 HCAPLUS

DN 123:85714

TI Acrylonitrile rubber compositions for sealing **spacers**

IN Liu, Guangjin; Liang, Qiangrong; Yang, Dikang

PA Peop. Rep. China

SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 7 pp.

CODEN: CNXXEV

DT Patent

LA Chinese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1084862	A	19940406	CN 1993-118788	19931027
	CN 1070518	B	20010905		
PRAI	CN 1993-118788		19931027		
AB	The title rubber compns. comprise acrylonitrile-butadiene rubber 70-90, natural rubber 10-30, sulfur 1-3, curing accelerator 2.5-4.5, aging-resistant 1.5-3.5, white carbon black 10-30, wood powder 140-200, ferric oxide 0.1-0.3, and pigment 0.5-1.5 wt. parts. The compns. are manufd. by milling acrylonitrile-butadiene rubber and natural rubber at 30-40.degree., adding sulfur, curing accelerator white carbon black, ferric oxide and pigment at 40-50.degree., adding wood powder, standing for 24 h, curing, and hot pressing.				
IT	Rubber, natural, uses Rubber, nitrile, uses RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); TEM (Technical or engineered material use); PROC (Process); USES (Uses) (acrylonitrile rubber compns. for sealing spacers)				
IT	1309-37-1 , Ferric oxide, uses 7704-34-9, Sulfur, uses RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); TEM (Technical or engineered material use); PROC (Process); USES (Uses) (acrylonitrile rubber compns. for sealing spacers)				
IT	9003-18-3 RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); TEM (Technical or engineered material use); PROC (Process); USES (Uses) (rubber, acrylonitrile rubber compns. for sealing spacers)				
IT	9003-18-3, Acrylonitrile-butadiene copolymer RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); TEM (Technical or engineered material use); PROC (Process); USES (Uses) (rubber; acrylonitrile rubber compns. for sealing spacers)				

L16 ANSWER 18 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1995:541419 HCAPLUS

DN 122:269451

TI Water glass-based multicomponent adhesive systems, and their manufacture
 IN Schoenfeld, Uwe; Schoenfeld, Uwe Dipl Ing
 PA Fraunhofer-Gesellschaft zur Foerderung der Angewandten Forschung E.V.,
 Germany; Gips-Schule-Stiftung
 SO Ger. Offen., 5 pp.
 CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 4330770	A1	19950316	DE 1993-4330770	19930910
	DE 4330770	C2	19950803		
PRAI	DE 1993-4330770		19930910		

AB The systems comprise .gtoreq.2 components, i.e., a 1st powd. component contg. H3PO4-neutralized fluidized-bed combustion ashes tempered at 300-600.degree. 20-100, filler 0-80, **barrier pigment** 0-80, and a liq. 2nd component contg. water glass 30-90, and balance water. The 1st and 2nd component are mixed in wt. ratio (1-3):(3-1) before application. These systems are esp. resistant to water, distd. water, and steam, and to temps. .ltoreq.1000.degree., and are suitable for use as spackling compds. and the repair of ceramics and grog. Filtered, H3PO4-neutralized fluidized bed-type ashes were tempered at 500.degree.. A 1st mixt. was prepd. contg. the ashes 30, mica (as **barrier pigment**) 10, and corundum (as filler) 60 wt.%. A 2nd mixt. was prepd. contg. the 66 wt.% of the 1st mixt. and balance Li water glass (SiO2/Li2O ratio 4.7), giving an adhesive system that was resistant to distd. water at 20.degree. and to H2SO4 (DIN 51 012), and to temps. .ltoreq.1000.degree..

IT Ashes (residues)
 (fluidized-bed combustion, phosphoric acid-neutralized, heat-treated; water glass-based multicomponent adhesive systems for repairing ceramics and grog)

IT Mica-group minerals, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (**pigment**; water glass-based multicomponent adhesive systems for repairing ceramics and grog)

IT Adhesives
 Ceramic materials and wares
 Filling materials
 Grog

Pigments

(water glass-based multicomponent adhesive systems for repairing ceramics and grog)

IT Mica-group minerals, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (iron, **pigments**; water glass-based multicomponent adhesive systems for repairing ceramics and grog)

IT Silicates, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (layered, **pigments**; water glass-based multicomponent adhesive systems for repairing ceramics and grog)

IT 1305-78-8, Calcia, uses **1309-37-1**, Ferric oxide, uses
 1344-28-1, Alumina, uses 7631-86-9, Silica, uses
 RL: NUU (Other use, unclassified); USES (Uses)

(component of fluidized-bed combustion ashes; water glass-based multicomponent adhesive systems for repairing ceramics and grog)

IT 1302-74-5, Corundum, uses 1314-23-4, Zirconia, uses 13462-86-7, Heavy spar 13463-67-7, Titania, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (filler; water glass-based multicomponent adhesive systems for

repairing ceramics and grog)
 IT 7664-38-2, Phosphoric acid, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (neutralized, heat-treated fluidized bed-combustion ashes; water
 glass-based multicomponent adhesive systems for repairing ceramics and
 grog)
 IT 14808-60-7, Quartz, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (tabular, **pigment**; water glass-based multicomponent adhesive
 systems for repairing ceramics and grog)
 IT 1344-09-8, Water glass 12627-14-4, Lithium silicate
 RL: NUU (Other use, unclassified); USES (Uses)
 (water glass-based multicomponent adhesive systems for repairing
 ceramics and grog)

L16 ANSWER 19 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1995:506326 HCAPLUS

DN 122:246551

TI Process and apparatus for manufacturing corundum-based abrasives

IN Zeiringer, Hans; Janz, Peter

PA Treibacher Chemische Werke AG, Austria

SO Ger., 6 pp.

CODEN: GWXXAW

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 4339031	C1	19950112	DE 1993-4339031	19931115
	EP 653474	A2	19950517	EP 1994-115643	19941005
	EP 653474	A3	19951122		
	EP 653474	B1	19980128		
	R: AT, ES, FR, GB, IT				
	AT 162846	E	19980215	AT 1994-115643	19941005
	JP 07233363	A2	19950905	JP 1994-307150	19941107
	JP 2952559	B2	19990927		
	US 5603738	A	19970218	US 1994-339081	19941114
	RU 2114888	C1	19980710	RU 1994-40858	19941115
PRAI	DE 1993-4339031		19931115		

AB The abrasives, having particle shape factor ≥ 0.6 , are manufd. by
 continuously or batchwise introducing an Al₂O₃-contg. starting component
 (Al₂O₃ content >98 wt.%) into a fusing aggregate, selecting the
 feed rate and furnace efficiency such that the height of the fused
 material in the furnace is ≤ 200 mm, removing the solidified
 corundum block, and comminuting the material to the desired particle size.
 The app. is an elec.-arc furnace comprising cooled **walls** and
 bottom, and a protective bottom plate.

IT Process control and dynamics

(level; process and app. for manufg. corundum-based abrasives)

IT Abrasives

Size reduction

(process and app. for manufg. corundum-based abrasives)

IT Transition **metal oxides**

RL: MOA (Modifier or additive use); NUU (Other use, unclassified); USES
 (Uses)

(process and app. for manufg. corundum-based abrasives)

IT Furnaces, electric

(arc, process and app. for manufg. corundum-based abrasives)

IT 1308-38-9, Chromia, uses 13463-67-7, Titania, uses

RL: MOA (Modifier or additive use); NUU (Other use, unclassified); USES
 (Uses)

(process and app. for manufg. corundum-based abrasives)

IT 1302-74-5, Corundum, uses 1344-28-1, Alumina, uses
 RL: NUU (Other use, unclassified); USES (Uses)

(process and app. for manufg. corundum-based abrasives)

IT 7782-42-5, Graphite, uses
 RL: NUU (Other use, unclassified); USES (Uses)

(protective plate; process and app. for manufg. corundum-based abrasives)

L16 ANSWER 20 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 1994:441131 HCAPLUS
 DN 121:41131
 TI The effects of **metal oxides** on the synthesis of Si₃N₄ whiskers from diatomaceous earth
 AU Mizuhara, Yukako; Ono, Hiroshi; Noguchi, Masao; Ishihara, Tatsumi; Takita, Yusaku
 CS Fac. Eng., Oita Univ., Oita, 870-11, Japan
 SO Journal of the Ceramic Society of Japan (1994), 102, 587-93
 CODEN: JCSJEW; ISSN: 0914-5400
 DT Journal
 LA Japanese
 AB Two types of Si₃N₄ whisker and a Si₃N₄ powder were obtained by the redn. and nitridation of diatomaceous earth in a flowing mixt. of nitrogen and ammonia at 1350.degree.C. It is revealed that the addn. of 2 wt % various **metal oxides** brought about remarkable effects on the shape and the yield of Si₃N₄. Addn. of either vanadium, manganese, yttrium or cobalt oxide increased the yield of inside whiskers which have a needle-like shape and form on the Si₃N₄ powder. Addn. of manganese oxide promoted the formation of outside whiskers significantly, which have a wool-like shape and form on the **wall** at the lower part of the reactor tube. Most of the outside whiskers produced in the presence of **metal oxide** had droplets on their top, which were mainly composed of Si and Fe. The results indicate that the outside whiskers have grown by the vapor-liq.-solid mechanism and that Fe is necessary for the growth. During the reaction, most of the added **metal oxides** seem to be reduced to the corresponding metals.

IT Kieselguhr
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (redn.-nitridation of, prepn. of silicon nitride whiskers by, **metal oxide** effect on)

IT Crystal whiskers
 (silicon nitride, prepn. of, by redn.-nitridation of diatomaceous earth, **metal oxide** effect on)

IT Reduction
 (with nitridation, of diatomaceous earth, silicon nitride whiskers prepn. by, **metal oxide** effect on)

IT Nitridation
 (with redn. of diatomaceous earth, silicon nitride whiskers prepn. by, **metal oxide** effect on)

IT Ceramic materials and wares
 (powd., silicon nitride, prepn. of, by redn.-nitridation of diatomaceous earth, **metal oxide** effect on)

IT 1305-78-8, Calcia, uses 1308-06-1, Cobalt oxide co₃o₄ **1308-38-9**, Chromium sesquioxide, uses **1309-37-1**, Iron sesquioxide, uses 1313-13-9, Manganese dioxide, uses 1313-99-1, Nickel oxide nio, uses 1314-36-9, Yttria, uses 1314-62-1, Vanadium pentoxide, uses **1317-38-0**, Copper oxide cuo, uses
 RL: USES (Uses)
 (in silicon nitride whisker prepn. by redn.-nitridation of diatomaceous earth, whisker growth in relation to)

IT 12033-89-5P, Silicon nitride, preparation
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of powders and whiskers of, by redn.-nitridation of
 diatomaceous earth, **metal oxide** effect on)

L16 ANSWER 21 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1993:86227 HCAPLUS

DN 118:86227

TI Glass ceramics, and their use

IN Siebers, Friedrich; Rodek, Erich; Pohl, Udo

PA Schott Glaswerke, Germany

SO Ger., 4 pp.

CODEN: GWXXAW

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 4125698	C1	19921126	DE 1991-4125698	19910802
PRAI	DE 1991-4125698		19910802		
AB	The glass-ceramics contain SiO ₂ 64.1-72.0, Al ₂ O ₃ 2.9-11.0, CaO 15.0-26.0, MgO 0-8.0, ZnO <2, BaO 0-0.5, K ₂ O 0-7.4, Na ₂ O 0-2.0 (K ₂ O + Na ₂ O .gtoreq.2), and fluoride 0.5-4.0 wt.%. The glass-ceramics are use as decorative artificial stone tiles for floors, walls , and facades. A mixt. of SiO ₂ 65, Al ₂ O ₃ 6, CaO 19, K ₂ O 4, Na ₂ O 2, fluoride 2.8, and, as pigments , Fe ₂ O ₃ 0.1 and CoO 0.3 wt.%, was melted at 1520.degree., heat-treated at 620.degree. for 1 h, and cooled. The blue glass was heated to 600.degree. at 5.degree./min, to 960.degree. at 3.degree./min, held at 960.degree. for 2 h, to give the glass-ceramics..				

IT Glass ceramics

(compns. for, for decorative artificial stone tiles for facades and floors and **walls**)

IT Stone, artificial

RL: USES (Uses)

(glass-ceramic compns. for, for tiles for decorative tiles for facades and floors and **walls**)

IT Tiles

(glass-ceramic decorative compns. for)

IT Building materials

(facades, glass-ceramic decorative artificial stone tiles for)

IT Tiles

(floor, glass-ceramic decorative compns. for)

IT 1304-28-5, Barium oxide, uses 1305-78-8, Calcia, uses 1309-48-4, Magnesia, uses 1313-59-3, Sodium oxide, uses 1314-13-2, Zinc oxide, uses 1344-28-1, Alumina, uses 7631-86-9, Silica, uses 12136-45-7, Potassium oxide, uses 16984-48-8, Fluoride, uses

RL: USES (Uses)

(glass-ceramic compns. contg., for decorative artificial stone tiles for facades and floors and **walls**)

IT 1307-96-6, Cobalt oxide (CoO), uses **1309-37-1**, Ferric oxide, uses

RL: USES (Uses)

(**pigment**, glass-ceramic compns. contg., for decorative artificial stone tiles for facades and floors and **walls**)

L16 ANSWER 22 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1992:638803 HCAPLUS

DN 117:238803

TI Method and compositions for protecting **wall** ties

IN Grainger, Roy; Kenny, Michael Vincent

PA Kenny, Anna Teresa, UK; Purkins, Ian Christopher; Purkins, Doreen

SO Brit. UK Pat. Appl., 24 pp.

CODEN: BAXXDU

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 2252782	A1	19920819	GB 1991-1472	19910123
	GB 2252782	B2	19950503		
PRAI	GB 1991-1472		19910123		
AB	Corroding wall ties are protected by treating with a mixt. contg., e.g., .alpha.,o-dihydroxy polydimethylsiloxane (mol. wt. 30,000) 20-30, dimethylpolydimethyl siloxane (mol. wt. 30,000) 5-10, Pr benzene 5-15, dodecylbenzene 1-5, PVC filler 20-25, CaCO ₃ 8-12, glass beads (diam. 0.74 mm) 0.5-5, red iron oxide 1-5, pigment 3-6, methylethyl(Me Et ketoximo) silane 3-6, SiO ₂ 3-6, Siloxon NIP 8511 0.1-4, dibutylamine 0.1-4, and Siloxane NIP 8512 (as a 45-55% soln. in alkylbenzene) 0.1-4 wt.%.				
IT	Buildings (corrosion prevention of wall ties in)				
IT	Epoxy resins, uses RL: USES (Uses) (corrosion-inhibiting mixt. contg., for protection of metal wall ties in buildings)				
IT	Siloxanes and Silicones, uses RL: USES (Uses) (corrosion-inhibiting mixt. contg., for protection of metal wall ties in buildings, Siloxon NIP 8511 and Siloxane NIP 8512)				
IT	Corrosion prevention (of metal wall ties, in buildings)				
IT	Siloxanes and Silicones, uses RL: USES (Uses) (dialkyl, corrosion-inhibiting mixt. contg., for protection of metal wall ties in buildings)				
IT	Siloxanes and Silicones, uses RL: USES (Uses) (dihydroxy di-Me, corrosion-inhibiting mixt. contg., for protection of metal wall ties in buildings)				
IT	Amines, uses RL: USES (Uses) (secondary, corrosion-inhibiting mixt. contg., for protection of metal wall ties in buildings)				
IT	103-65-1, Propyl benzene 111-92-2, Dibutylamine 123-01-3, Dodecylbenzene 471-34-1, Calcium carbonate, uses 1309-37-1 , Red iron oxide, uses 9002-86-2, Polyvinyl chloride 144499-99-0 RL: USES (Uses) (corrosion-inhibiting mixt. contg., for protection of metal wall ties in buildings)				

L16 ANSWER 23 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1992:261268 HCAPLUS

DN 116:261268

TI Manufacture of decorative porous materials useful for floors and **walls**

IN Tajima, Yosuke; Motoi, Koji

PA Sekisui Chemical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04037665	A2	19920207	JP 1990-143332	19900531
PRAI	JP 1990-143332		19900531		
AB	The process comprises mixing an inorg. powder with a curable resin soln., coloring the mixt., mixing of .gtoreq.2 differently colored mixts., and press molding. Thus, a 4 mm-thick decorative porous material was manufd. from a white powder mixt. contg. 25 wt. parts 10 wt.% TiO2-contg. epoxy resin soln. and 75 wt. parts wollastonite (-400 mesh) and a black powder mixt. contg. 20 wt. parts 10 wt.% carbon black-contg. epoxy resin soln. and 80 wt. parts wollastonite (-800 mesh).				

IT Floors

Walls

(colored porous materials for, manuf. of, from wollastonite and epoxy resins)

IT Carbon black, uses

RL: USES (Uses)

(pigment, in manuf. of colored porous materials from wollastonite and epoxy resin, for **walls** and floors)

IT Epoxy resins, uses

RL: USES (Uses)

(porous materials from wollastonite and, colored, for **walls** and floors)

IT Polyesters, uses

RL: USES (Uses)

(unsatd., porous materials from wollastonite and, colored, for **walls** and floors)

IT 1309-37-1, Ferric oxide, uses 1344-28-1, Alumina, uses

13463-67-7, Titania, uses

RL: USES (Uses)

(pigment, in manuf. of colored porous materials from wollastonite and epoxy resin, for **walls** and floors)

IT 13983-17-0, Wollastonite

RL: USES (Uses)

(porous materials from epoxy resin and, colored, for **walls** and floors)

L16 ANSWER 24 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1991:588811 HCAPLUS

DN 115:188811

TI Manufacture of colored coating materials for building facades and **walls**

IN Elekes, Sandor; Balogh, Lajos; Rab, Jozsef

PA Hung.

SO Hung. Teljes, 4 pp.

CODEN: HUXXB

DT Patent

LA Hungarian

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	HU 54601	A2	19910328	HU 1989-2709	19890529
PRAI	HU 1989-2709		19890529		
AB	A coating material is prep'd. for the protection of building facades and walls against corrosion, solar radiation, and atm. erosion by mixing a ground rock (e.g. quartz) having particle size 0.8-1.2 mm with 1-3 wt.% epoxy resin (e.g. polyamine-crosslinked) and a pigment (10-15 wt.% of the resin amt.), e.g. iron red, in an inclined drum mixer. The mixed charge is settled for 0.5-5.0 h then subjected to vibration screening for classification and sepn. of the				

agglomerated particles. The resulting material is spread on the building surface which was previously coated with a primer and supporting layers of max. 1.0 mm thickness consisting of the same epoxy resin and **pigment** used for treating the ground rock.

IT Sand
 RL: USES (Uses)
 (epoxy resin coating material contg., for building facades and **walls**)

IT Coating materials
 (colored, epoxy resin-contg., for building facades and **walls**)

IT Building materials
 (facades, coloring of, coating materials for, contg. epoxy resin and quartz sand)

IT **1309-37-1**, Iron oxide (Fe₂O₃), uses and miscellaneous
 RL: USES (Uses)
 (**pigment**, coating materials contg., for building facades and **walls**)

IT 7631-86-9
 RL: USES (Uses)
 (sand, epoxy resin coating material contg., for building facades and **walls**)

L16 ANSWER 25 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1990:61292 HCAPLUS

DN 112:61292

TI Masking layers for pack aluminizing

IN Baldi, Alfonso L.

PA Alloy Surfaces Co., Inc., USA

SO U.S., 13 pp. Cont.-in-part of U.S. 4,537,927.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 41

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4845139	A	19890704	US 1984-584538	19840228
	US 4464430	A	19840807	US 1981-242350	19810310
	US 5182078	A	19930126	US 1990-533879	19900606
	US 5194219	A	19930316	US 1992-909723	19920707

AB Pack diffusion aluminizing of precision parts is locally prevented by masking with a 2-layer coating based on a powd. filler and a liq. binder in a volatile solvent. The 1st layer includes a powd. filler for preventing the depletion of alloy substrate, and the 2nd layer contains a **barrier** powder mixt. A 3rd layer is optionally applied in high-temp. aluminizing of turbine engine blades and similar parts. The masking mixt. optionally includes a powd. **pigment**, and is stored as a dry conc. and slurried for service. The parts are optionally chromized prior to aluminizing. The masking is suitable for chromizing. Thus, the turbine engine blades from U-520 Ni superalloy were dip-coated on the root section for masking, and heated for diffusion aluminizing. The residual coating shell could be removed by mech. impact. The masking layers were applied from slurries contg.: 2300 g Al₂O₃ powder (10-20 .mu.m size) in 1300 g (1000 mL) CCl₃CH₃ contg. 7% poly(ethylmethacrylate) and 0.5% stearic acid; 50 g Ni₃Al powder (20-50 .mu.m), 5 g Cr powder (20-50 .mu.m), and 45 g Al₂O₃ powder in 50 mL of CCl₃CH₃ soln.; and 75 g Ni powder (20-50 .mu.m), 13 g Ni₃Al powder (20-50 .mu.m), and 12 g Al₂O₃ powder in 33 mL of CCl₃CH₃ soln. The dry layer **wts.** were 350, 400, and 600 mg/cm² resp.

IT Pipes and Tubes

(diffusion coating of, masking with slurries for selective)

IT Turbines
(blades, diffusion coating, masking with slurries for selective)

IT Saws
(chain, diffusion coating of tips of, masking with slurries for selective)

IT Aluminizing
Chromizing
(pack, masking on precision parts for, coating with slurries in)

IT 7429-90-5
RL: USES (Uses)
(aluminizing, pack, masking on precision parts for, coating with slurries in)

IT 54425-49-9, PWA 1422 112269-16-6, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(chromizing of, masking with slurries for selective)

IT 7440-47-3
RL: USES (Uses)
(chromizing, pack, masking on precision parts for, coating with slurries in)

IT 11068-88-5, U 520 12773-54-5 54425-27-3, PWA-1455
RL: USES (Uses)
(diffusion coating of, masking with slurries for selective)

IT **1308-38-9**, Chromium oxide (Cr2O3), uses and miscellaneous
1344-28-1, Alumina, preparation 7429-90-5, Aluminum, uses and miscellaneous 7440-02-0, Nickel, uses and miscellaneous 7440-47-3, Chromium, uses and miscellaneous
RL: USES (Uses)
(masking slurry contg. powd., for diffusion coating of precision parts)

IT 57-11-4, Stearic acid, uses and miscellaneous 71-55-6, Methylchloroform
9003-32-1, Poly(ethyl acrylate) 9003-42-3, Poly(ethyl methacrylate)
25685-29-4
RL: USES (Uses)
(masking slurry contg., for diffusion coating of precision parts)

L16 ANSWER 26 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1988:40501 HCAPLUS

DN 108:40501

TI Detection of velocity of hydraulic fluid in torque converter

IN Sakamoto, Haruo; Suyama, Kiyohito

PA Mazda Motor Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 62188931	A2	19870818	JP 1986-31254	19860214
PRAI	JP 1986-31254		19860214		

AB A method for detg. velocity of hydraulic fluid in a torque converter is described. A material comprising a **pigment** (e.g. Fe2O3) and silicone of viscosity 105-106 cSt at 25.degree. is added to the hydraulic fluid, so that when the material flows through the inner **wall** of the converter, a flow pattern is formed and the velocity of the hydraulic fluid is detd. by using a given relationship. The silicone can be silicone oil (e.g. dialkanol polysilicone), silicone rubber, or their mixt. Thus, silicone oil (viscosity 105 cSt) and silicone rubber (viscosity 106 cSt) in **wt.** ratio 1:1 were mixed with 200 **wt.% pigment** and added to a hydraulic fluid. Velocity of the hydraulic fluid in a torque converter was accurately measured by

- the flow pattern of the material.
- IT Torque
(converter, detn. of velocity of hydraulic fluid in)
- IT Siloxanes and Silicones, uses and miscellaneous
RL: USES (Uses)
(dialkanol, visible materials contg. **pigments** and, for detg. velocity of hydraulic fluid in torque converter)
- IT Hydraulic fluids
(for torque converter, velocity detn. of, by flow pattern visualization)
- IT Rubber, silicone, uses and miscellaneous
RL: USES (Uses)
(materials contg. **pigments** and, for detg. velocity of hydraulic fluid in torque converter)
- IT **1309-37-1**, Ferric oxide, uses and miscellaneous
RL: USES (Uses)
(material contg. silicone and, for detg. velocity of hydraulic fluid in torque converter)
- L16 ANSWER 27 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1987:518505 HCAPLUS
DN 107:118505
TI Formation patterns of the liquidus surface in silicate systems
AU Anfilogov, V. N.; Bobylev, I. B.
CS Inst. Geol. Geokhim., Sverdlovsk, USSR
SO Geokhimiya (1987), (7), 1014-23
CODEN: GEOKAQ; ISSN: 0016-7525
DT Journal
LA Russian
AB Based on modern concepts of the structure in silicate melts, the presence of **metal oxides** (in the free state) in melts has a major effect on the liquidus temp. of silicates. This factor detcs. the presence or absence of a pyroxene **barrier** sepg. the quartz-free basaltic from the quartz-bearing andesitic eutectics. Under dry (water-free) conditions, the pyroxene **barrier** can occur only when the content of **metal oxides** (in the free state) in the melt is low, i.e., in presence of significant amts. of strong bases (Na₂O, K₂O, CaO); water, being a weak base, imparts an opposite effect. The presence of water in amts. of 1.5-2.0 wt.% completely suppresses the development of the pyroxene **barrier**. The formation of an andesite magma from a basaltic substratum is possible with the addn. of excess SiO₂ to the basalt. Liparites with a concn. of rare elements and isotope ratios similar to those in the mantle could form only through fractional melting of the substratum.
- IT Silicates, preparation
RL: PREP (Preparation)
(crystrn. of, liquidus surface development in relation to)
- IT **1345-25-1**, Iron oxide (FeO), properties
RL: PRP (Properties)
(system, calcium oxide-silica-, liquidus surface in)
- IT 7631-86-9, Silica, properties
RL: PRP (Properties)
(systems, anorthite-diopside- and anorthite-forsterite-)
- IT 14483-19-3, Diopside 15118-03-3, Forsterite
RL: OCCU (Occurrence)
(systems, anorthite-silica-)
- IT 7631-86-9, Silica, properties
RL: PRP (Properties)
(systems, calcia-iron oxide-, liquidus surface in)
- IT 1302-54-1, Anorthite
RL: OCCU (Occurrence)

(systems, forsterite-silica- and diopside-silica-)
 IT 1305-78-8, Calcium oxide (CaO), properties
 RL: PRP (Properties)
 (systems, iron oxide-silica,- liquidus surface in)

L16 ANSWER 28 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 1984:613529 HCAPLUS
 DN 101:213529
 TI Integral low-energy thermite igniter
 IN Gibson, Albert; Haws, Lowell D.; Mohler, Jonathan H.
 PA USA
 SO U. S. Pat. Appl., 16 pp. Avail. NTIS Order No. PAT-APPL-6-494 487.
 CODEN: XAXXAV
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 494487	A0	19840914	US 1983-494487	19830513
PRAI	US 1983-494487		19830513		

AB Thermite igniter/heat sources for ignition of larger charges and having optimized space, **wt.**, and energy efficiency and minimal gas output on ignition are composed of as many consumable components as possible so that substantially all of the container and igniter load are consumed upon ignition. The preferred thermite compns. consist of 10-15 Al and 85-90 **wt.% metal oxide**, preferably Cu₂O. Thus, in a particular configuration the igniter mix was Ba/CaCrO₄ and the primer charge CuO/Al powder, both cold-pressed by a 50 lb force to .apprx.50% of max. theor. d. The thermal insulating **barrier** was 2.5 mil Teflon [9002-84-0] and the burnable **barrier** 2 mil Pd/Al foil. The consolidated thermite output charge was CuO/Al hot-pressed to 70% of max. theor. d. The electrode design and insulation also are described. Complete burn was obtained in tests with a 14 V d.c. power supply and with a 2.0 V, 20 A, 2 ms pulse system.

IT Igniters and Lighters
 (thermite-based low-energy, with completely consumable components)

IT 7440-05-3, uses and miscellaneous
 RL: USES (Uses)
 (foil, in thermite low-energy igniters with completely consumable components)

IT 7440-39-3, uses and miscellaneous 9002-84-0 13765-19-0
 RL: USES (Uses)
 (in thermite low-energy igniters with completely consumable components)

IT **1317-38-0**, uses and miscellaneous
 RL: USES (Uses)
 (thermite from aluminum and, in low-energy igniters with completely consumable components)

IT 7429-90-5, uses and miscellaneous
 RL: USES (Uses)
 (thermite from cupric oxide and, in low-energy igniters with completely consumable components)

L16 ANSWER 29 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 1976:498363 HCAPLUS
 DN 85:98363
 TI Glass products
 IN Mackenzie, John D.
 PA University of California, USA
 SO U.S., 5 pp. Division of U.S. 3,900,303.
 CODEN: USXXAM
 DT Patent

LA English

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3963503	A	19760615	US 1975-558510	19750314
	US 3900303	A	19750819	US 1972-268971	19720705
PRAI	US 1972-268971		19720705		
AB	Glass products are produced by mixing particulate used container glass contg. Fe 0.1-3, Sn 0.1-2, Al 0.1-2, other metals 0.1-1, and cellulosics 0.1-1 wt.%. The used container glass has an av. reflectance 5-95% and is mixed with 0.5-10 wt.% carbonate foaming agent, which is activated with heat and pressure to sinter and soften the glass; the temp. is less than the m.p. of the glass. Pressed tiles made from these glasses are useful as decorative and structural coverings for floors, walls , and furniture.				
IT	Building materials (contg. waste glass)				
IT	Sand RL: USES (Uses) (fillers, for cellular waste glass building materials)				
IT	Ashes (residues) (fly, fillers, for cellular waste glass building materials)				
IT	Waste solids (glass, building materials from, foaming of)				
IT	Glass RL: USES (Uses) (waste, building materials from foaming of)				
IT	513-77-9 1633-05-2 16389-88-1 RL: USES (Uses) (foaming agents, for waste glass)				
IT	1309-37-1 , uses and miscellaneous RL: USES (Uses) (pigments , for foamed waste glass building materials)				

L16 ANSWER 30 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1971:126341 HCAPLUS

DN 74:126341

TI Catalytic polymerization of .alpha.-olefins

IN Sato, Akihiro; Konotsune, Shiro; Kachi, Atsuyuki; Shimizu, Hiroshi

PA Chisso Corp.

SO Ger. Offen., 29 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2035943	A1	19710211	DE 1970-2035943	19700720
	DE 2035943	C3	19801127		
	DE 2035943	B2	19800327		
	FR 2057857	A5	19710521	FR 1970-28144	19700730
PRAI	JP 1969-60798	A	19690801		
AB	MgO, ZnO, Al ₂ O ₃ , SiO ₂ , ZrO ₂ , or a similar oxide is mixed with AlCl ₃ or FeCl ₃ , treated with TiCl ₄ and xylene, benzene, PhCl, anisole, or another aromatic compd., heated at 120.degree., washed with hexane, and activated with Et ₃ Al or a similar compd., giving a polymn. catalyst which exhibits a high activity in the prepn. of polyethylene, prevents sticking of the polymer to the reactor walls , and permits good control of the mol. wt. of the polymer by the addn. of H to the monomers.				
IT	Olefins, preparation RL: PREP (Preparation)				

(catalysts for)

IT Polymerization catalysts
(metal halide-**metal oxide** reaction products, for olefins)

IT Aluminum oxide
Calcium oxide
Magnesium oxide
Nickel oxide (NiO)
Silica
Vanadium oxide (V2O5)
Zinc oxide
Zirconium oxide (ZrO2)
RL: USES (Uses)
(reaction products with metal halides, catalysts, for polymn. of olefins)

IT Aluminum chloride
Iron chloride (FeCl3)
RL: USES (Uses)
(reaction products with **metal oxides**, catalysts, for polymn. of olefins)

IT 9002-88-4P, preparation 9003-07-0P, preparation 9010-79-1P, preparation 25068-12-6P, preparation
RL: PREP (Preparation)
(catalysts for)

IT 96-10-6, uses and miscellaneous 97-93-8, uses and miscellaneous 7550-45-0, uses and miscellaneous
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for polymn. of olefins)

IT 9003-28-5P 25087-34-7P, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(manuf. of, catalysts for)

IT 1302-67-6 1308-06-1 1317-35-7 **1317-61-9 12018-00-7**
RL: USES (Uses)
(reaction products with metal halides, catalysts, for polymn. of olefins)

IT 7632-51-1
RL: USES (Uses)
(reaction products with **metal oxides**, catalysts, for polymn. of olefins)

L16 ANSWER 31 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1970:409958 HCAPLUS

DN 73:9958

TI Vinylidene fluoride polymers as protective **barriers** against intense thermal radiation

IN Iserson, Hyman; Koblitz, Francis F.

PA Pennwalt Corp.

SO U.S., 3 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3510429	A	19700505	US 1966-558275	19660617
PRAI	US 1966-558275		19660617		

AB **Barriers** for protecting personnel and equipment against the injurious effects of short-time concd. exposure to intense thermal radiation are prepd. from vinylidene fluoride (I) polymers contg. 2-70 wt. % nonflammable, energy-reflecting, light-colored **pigments**. Woven or nonwoven fabrics from fibers of

poly(vinylidene fluoride) or I-haloolefin copolymers, contg. **pigments** such as TiO₂, K₄TiO₄, CrO₃, ZnO, or ZnS were preferred. These polymers have unusually good ability to dissipate and attenuate thermal energy by smoke evolutions, endothermic decompn., reflection, and emission.

IT Heat-resistant materials
(fluoroethylene polymers with inorg. **pigments** as)
IT Fiber, synthetic
RL: PROC (Process)
(nonwoven, heat-resistant)
IT Potassium titanium oxide
RL: PROC (Process)
(heat-resistant fiber from fluoroethylene polymers and)
IT **1333-82-0**
RL: PROC (Process)
(heat-resistant fiber from ethylene polymers and)
IT 12137-20-1 13463-67-7, uses and miscellaneous **1308-38-9**, uses
and miscellaneous 1309-64-4, uses and miscellaneous
RL: PROC (Process)
(heat-resistant fiber from fluoroethylene polymers and)
IT 9002-83-9 9002-84-0, uses and miscellaneous 9002-88-4, uses and
miscellaneous 24937-79-9 24980-67-4 24981-14-4
RL: PROC (Process)
(heat-resistant fibers from inorg. **pigments** and)

L16 ANSWER 32 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1967:427582 HCAPLUS

DN 67:27582

TI Photochromic compositions comprising doped inorganic **metal oxides** suspended in polyester binders

IN Chopoorian, John A.

PA American Cyanamid Co.

SO U.S., 6 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3317321		19670502	US	19621121
AB	<p>Polyesters are used as binders for doped metal oxides, giving compns. in which the photochromism of the oxide is unimpaired. Thus, a polyester (I) from maleic anhydride, phthalic anhydride, and propylene glycol was washed 3 times with aq. Na₂CO₃ and dried 2 hrs. over CaCl₂. I 100, azobisisobutyronitrile 0.25, and styrene 61 parts were mixed and 20 wt. % (based on I) doped TiO₂, activated with 0.2% Fe₂O₃, was added. The mixt. was milled 2 hrs., coated between glass plates, sealed, and heated 12 hrs. at 60.degree. and 1.5 hrs. at 80.degree.. The casting formed a tan color on exposure to 400 m.mu. uv radiation. The following oxides were tested [oxide, activator, color change, and activation time (sec.) given]: TiO₂, FeO off-white to tan 60; TiO₂ FeO and CuO, off-white to brown 60; Nb₂O₅, Fe₂O₃, off-white to gray, 1200; Al₂O₃, Cr₂O₃, off-white to gray, 3600; ZnO, V₂O₅, off-white to gray, 2700; SnO₂, CuO, off-white to deep tan, 2700; ZrO₂, CuO, off-white to gray, 2700. Other compns. which can be used are TiO₂ activated with Cr₂O₃, CuO, NiO, MnO₂, or Mn₂O₃ and Fe₂O₃ or Nb₂O₅ activated with FeO, Cr₂O₃, CuO, V₂O₅, MnO₂, or Mn₂O₃. The reaction product of the oxides or GeO₂ with WO₃ or MoO₃ can also be used. These compns. can be used as memory devices for optical analog computers, temporary data storage devices, temporary photographic proofs, light storage, optical masks, wall panels, costume jewelry, and toys.</p>				

- IT Polyesters, uses and miscellaneous
 RL: USES (Uses)
 (binders, for photochromic transition **metal oxides**)
- IT Photochromism
 (of transition **metal oxides**, polyester binders for)
- IT Germanium molybdenum oxide
 Germanium tungsten oxide
 Molybdenum tin oxide
 Molybdenum titanium oxide
 Molybdenum zinc oxide
 Molybdenum zirconium oxide
 Tin tungsten oxide
 Titanium tungsten oxide
 Tungsten germanium oxide
 Tungsten tin oxide
 Tungsten titanium oxide
 Tungsten zirconium oxide
 RL: USES (Uses)
 (photochromic materials from)
- IT **1308-38-9**, uses and miscellaneous **1309-37-1**, uses and
 miscellaneous 1313-13-9, uses and miscellaneous 1313-99-1, uses and
 miscellaneous 1314-62-1, uses and miscellaneous **1317-38-0**,
 uses and miscellaneous **1345-25-1**, uses and miscellaneous
 12163-56-3
 RL: USES (Uses)
 (photochromic materials contg. **metal oxides** doped
 with)
- IT 1313-96-8 1314-13-2, uses and miscellaneous 1314-23-4, uses and
 miscellaneous 1344-28-1, uses and miscellaneous 13463-67-7, uses and
 miscellaneous 18282-10-5
 RL: USES (Uses)
 (photochromic materials from, doped with transition **metal
 oxides**)

L16 ANSWER 33 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1966:42367 HCAPLUS

DN 64:42367

OREF 64:7849f-h

TI Refractory articles

PA E. I. du Pont de Nemours & Co.

SO 30 pp.

DT Patent

LA Unavailable

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	NL 6401476		19650819	NL	19640218
AB	Addn. to Neth. 273,436. The refractory product has a porosity of 15-95% and consists of a rigid aggregate of a metal oxide (such as from Al, Be, Ca, Cr, Nb, Cu, Hf, Fe, Mg, Ni, Si, Tl, Th, Ti, Zr, or alloys thereof) (A) formed in situ by oxidizing the metal with O and the oxide of another metal, such as the alkali metals, the alkali-earth metals, V, Cr, Mo, W, Cu, Ag, Zn, Sb, and (or) Bi (B). The product contains 4.6-99.95 wt. % A and 0.02-20 wt. % B. The product <85% of unoxidized metal and 0-95 wt. % of a cryst. refractory filling material. The rigid aggregate of A forms a structure of cell walls , which are connected with each other. The material of the structure contains <30 wt. % .alpha.-Al2O3 or solid solns. of Al2O3 and another metal oxide .				
IT	Refractories (from aluminum oxide and other oxides)				

IT Alkali **metal oxides**
 (refractories contg. Al₂O₃ and)

IT Alkaline earth oxides
 (refractories from Al₂O₃ and)

IT **1308-38-9**, Chromium oxide, Cr₂O₃
 (refractories from Al₂O₃ and)

L16 ANSWER 34 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1963:449266 HCAPLUS

DN 59:49266

OREF 59:8975b-d

TI Ship-bottom paints based on sodium silicate

AU Rischbieth, J. R.; Marson, F.

SO Journal of the Oil and Colour Chemists' Association (1963), 46, 499-518
 CODEN: JOCCAB; ISSN: 0030-1337

DT Journal

LA Unavailable

AB Long-life, air-drying, antifouling, and anticorrosive paints based on Na silicate (I) have been developed. Anticorrosive Zn-rich paints based on I with a Na₂O:SiO₂ ratio of 1:3.0 air-dry slowly and stay soft on H₂O immersion; at a 1:3.8 ratio, they are satisfactory but with a fairly short pot life (.apprx. 2 hrs.). Contrary to European experience, such paints fouled quickly in Sydney Harbor, but gave corrosion protection proportional to film **wt.** per unit area (18 months at 200 g./m.²). The addn. of Cu₂O and HgO increased the antifouling life but decreased the corrosion protection. A paint made from 200 g. Cu₂O, 100 ml. of a 20.9% I soln. (Na₂O:SiO₂ = 1:3.38), and 0.8% Me cellulose (II) + 20 ml. H₂O was modified by changes in II content, **pigment/binder** or Na₂O:SiO₂ ratio, addns. of HgO, Zn, org. toxins, bentonite, or mica. All unmodified paints and those with inert additives had an increased effective anti-fouling life, with the film **wt.** of up to 2.5 years. The exhausted matrix layer may be too thick to allow effective leaching, or the pores may be blocked by slime or insol. reaction products. Almost all non-inert additives shortened antifouling life. The earlier anticorrosive (Zn/I) paint was overcoated and exposed with the antifouling paint (Cu₂O/I), with and without different **barrier** coats; all the latter were less effective than none.

IT Poisons
 (copper oxide, antifouling Na silicate paints contg.)

IT Paint
 (sodium silica-based, contg. Cu₂O, for ship hulls, anticorrosive and antifouling)

IT Sodium silicate
 (paints from, anticorrosive antifouling ship-bottom)

IT **1317-39-1**, Cu₂O
 (paint (antifouling) contg., for ship-bottom)

L21 ANSWER 1 OF 30 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 2002:944633 HCAPLUS
 DN 138:28111
 TI Glass materials for PDP, PALC, FED, VFD **display** panels
 IN Yamada, Hiroe; Mitsui, Hiroyuki; Masaki, Koki
 PA Toray Industries, Inc., Japan
 SO Jpn. Kokai Tokkyo Koho, 15 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002356351	A2	20021213	JP 2002-95958	20020329
PRAI	JP 2001-100331	A	20010330		

AB The glass materials have an island structure consisting of glass matrix and dispersed **metal oxide** island sections having av. size .ltoreq.5 .mu.m. Preferably, the glass has low softening point, and is esp. suitable for **partition walls** of **display** parts on a substrate.

IT Optical imaging devices
 (glass materials having low softening point for PDP, PALC, FED, VFD **display** panels)

IT Glass, properties
 RL: DEV (Device component use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (glass materials having low softening point for PDP, PALC, FED, VFD **display** panels)

IT 1307-96-6, Cobalt oxide, uses **1308-38-9**, Chromium oxide, uses **1309-37-1**, Iron oxide, uses 1309-48-4, Magnesia, uses 1310-53-8, Germania, uses 1312-43-2, Indium oxide 1313-13-9, Manganese oxide, uses 1313-96-8, Niobia 1313-99-1, Nickel oxide, uses 1314-08-5, Palladium oxide 1314-13-2, Zinc oxide, uses 1314-23-4, Zirconia, uses 1317-36-8, Lead oxide (PbO), uses **1317-38-0**, Copper oxide, uses 1327-53-3, Arsenic oxide (As2O3) 1332-29-2, Tin oxide 1344-28-1, Alumina, uses 7631-86-9, Silica, uses 13463-67-7, Titania, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (glass materials contg. dispersed island of; glass materials having low softening point for PDP, PALC, FED, VFD **display** panels)

L21 ANSWER 2 OF 30 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 2002:749444 HCAPLUS
 DN 138:27771
 TI Oxidation of metals investigated by in situ surface sensitive X-ray diffraction
 AU Stierle, A.
 CS Max-Planck-Institut fur Metallforschung, Stuttgart, D-70569, Germany
 SO Zeitschrift fuer Metallkunde (2002), 93(8), 833-839
 CODEN: ZEMTAE; ISSN: 0044-3093
 PB Carl Hanser Verlag
 DT Journal
 LA English
 AB The onset of the oxidn. of epitaxial Cr films and NiAl single crystals was characterized by surface sensitive X-ray diffraction techniques. From X-ray reflectivity measurements at.-scale information on the oxide thickness, its roughness and the **metal/oxide** interfacial morphol. can be obtained. As an example, time-resolved reflectivity measurements during the oxidn. of Cr are presented, which allow the detn. of an activation **barrier** for Cr ion diffusion

through the growing oxide layer. The structure and defects of the growing Cr₂O₃ layers are in addn. visualized in cross-section high-resoln. transmission microscopy **images**. In the case of the oxidn. of NiAl (110) the formation of Al₂O₃ overlayers was obsd., leaving behind a chem. disturbed substrate. Here, so-called crystal truncation rod measurements provide information about the oxidn.-induced defect formation close to the NiAl/Al₂O₃ interface. In the case of the oxidn. of NiAl (110) Al anti-site atoms are present at the interface, which are forbidden in the Ni-Al vol. phase diagram.

IT Grain boundary diffusion
Interface
Oxidation
Surface structure
Thermodynamics
(oxidn. of metals by in situ surface sensitive X-ray diffraction)

IT 7440-47-3, Chromium, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(film on Nb/Al₂O₃ substrate; oxidn. of metals by in situ surface sensitive X-ray diffraction)

IT 1344-28-1, Alumina, formation (nonpreparative)
RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
(film; oxidn. of metals by in situ surface sensitive X-ray diffraction)

IT 1308-38-9, Chromia, formation (nonpreparative)
RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
(oxidn. of metals by in situ surface sensitive X-ray diffraction)

IT 12003-78-0
RL: TEM (Technical or engineered material use); USES (Uses)
(oxidn. of metals by in situ surface sensitive X-ray diffraction)

IT 7440-03-1, Niobium, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(substrate buffer; oxidn. of metals by in situ surface sensitive X-ray diffraction)

RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 3 OF 30 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:464490 HCAPLUS
DN 137:39423
TI Reversible **image display** medium offering high contrast
images and their fabrication
IN Noda, Senji; Otokawa, Kenji; Matsuura, Masahiko
PA Minolta Camera Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 22 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002174831	A2	20020621	JP 2000-372802	20001207
PRAI	JP 2000-372802		20001207		
AB	The display medium is assembled with a pair of substrates (A) with a gap in between, .gtoreq.1 cells (B) surrounded with ribs for contg. dry developers (C) involving .gtoreq.2 static dry developer particles (D) of different optical reflection concns., wherein the substrates A are adhesively bonded to each other, the adhesive exposed in the cells B being pptd. with particles (E) which do not contribute to image formation and have sizes smaller than that of the max. diam. of dry developer particles D. By forming a static field corresponding to an image to be displayed with the developer particles D in the cells B being charged by static friction, the developer particles D are				

moved by Coulomb energy to develop **images**.

- IT Carbon black, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (Ketjen Black, **pigment**; reversible **image display** medium using dry developer particles of different colors, offering high contrast **images**)
- IT Electrographic developers
 (dry; reversible **image display** medium using dry developer particles of different colors, offering high contrast **images**)
- IT Optical imaging devices
 (reversible **image display** medium using dry developer particles of different colors, offering high contrast **images**)
- IT 1309-38-2, RB-BL, uses 1317-61-9, Iron oxide (Fe₃O₄),
 uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (magnetic **pigment**; reversible **image display** medium using dry developer particles of different colors, offering high contrast **images**)
- IT 13463-67-7, Tipaque CR 50, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (**pigment**; reversible **image display** medium using dry developer particles of different colors, offering high contrast **images**)

L21 ANSWER 4 OF 30 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2002:464489 HCAPLUS

DN 137:39422

TI Reversible **image display** medium offering high contrast **images**

IN Matsuura, Masahiko; Mizuno, Hiroshi; Ikegawa, Akihito; Kanazawa, Masaharu; Yome, Mareaki; Kurita, Ryuji

PA Minolta Camera Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 24 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002174827	A2	20020621	JP 2000-370703	20001205
PRAI	JP 2000-370703		20001205		

AB The medium is assembled with a pair of substrates with a gap in between, .gtoreq.1 developer-contg. cells surrounded with **ribs**, and therein dry developers involving .gtoreq.2 static dry developer particles a and b; wherein the cells satisfy following formulas PD .gtoreq. $[1/\rho.a + (1-Tc)/(Tc \cdot \rho.b)] \cdot Ma/(D \cdot f)$ and PD .gtoreq. $[1/\rho.b + Tc/[(1-Tc) \cdot \rho.a]] \cdot Mb/(D \cdot f)$ [D = cell gap, $\rho.a$, $\rho.b$ = true sp. gravities of particles a and b; Ma, Mb = amts. of particles a and b adhered on unit surface area of substrate; Tc = mixing ratio of a per all particles in a cell; PD = ratio of total particle vol. per cell vol.; f = (cell vol.)/(imaging area .times. D); preferably, PD .ltoreq.0.55/f]. The developer particles have a difference of concns. of optical reflection, or in other words, difference of contrast or difference of colors, and moreover, these particles are dry developer particles one of which have good hiding power toward other particles. These characteristics enable obtaining high contrast **images**.

IT Carbon black, uses
 RL: TEM (Technical or engineered material use); USES (Uses)

(Ketjen Black, **pigment**; reversible **image display** medium using dry developer particles of different colors, offering high contrast **images**)

IT Electrographic developers
(dry; reversible **image display** medium using dry developer particles of different colors, offering high contrast **images**)

IT Optical imaging devices
(reversible **image display** medium using dry developer particles of different colors, offering high contrast **images**)

IT 1309-38-2, RB-BL, uses 1317-61-9, Iron oxide (Fe₃O₄),
uses
RL: TEM (Technical or engineered material use); USES (Uses)
(magnetic **pigment**; reversible **image display** medium using dry developer particles of different colors, offering high contrast **images**)

IT 13463-67-7, Tipaque CR 50, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**pigment**; reversible **image display** medium using dry developer particles of different colors, offering high contrast **images**)

L21 ANSWER 5 OF 30 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:368971 HCAPLUS
DN 136:361954
TI Method for forming thin film and method for fabricating liquid crystal **display** using the same
IN Kim, Soo Kil; Bae, Jong Uk; Kim, Jae Jeong
PA S. Korea
SO U.S. Pat. Appl. Publ., 13 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002058416	A1	20020516	US 2001-985342	20011102
PRAI	KR 2000-67200	A	20001113		

AB The present invention relates to a method for forming a thin film and a method for fabricating a liq. crystal **display** device using the same. The method provides a process that is simplified. Uniform thin film characteristics can be obtained. The method for forming a thin film includes the steps of forming a diffusion **barrier** film on a substrate, forming a metal seed layer on the diffusion **barrier** film, removing a **metal oxide** film formed on a surface of the metal seed layer using an elec. plating method, and depositing metal on the metal seed layer in which the **metal oxide** film is removed.

IT Liquid crystal **displays**
(method for forming thin film for fabricating)

IT Glass, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(substrate; method for forming thin film for fabricating liq. crystal **display** contg.)

IT 7758-98-7, Copper sulfate, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(deposition soln.; method for forming thin film for fabricating liq. crystal **display**)

IT 7664-93-9, Sulfuric acid, uses
RL: TEM (Technical or engineered material use); USES (Uses)

(electrolytic soln.; method for forming thin film for fabricating liq. crystal **display**)

IT 1317-39-1, Copper oxide, processes

RL: PEP (Physical, engineering or chemical process); REM (Removal or disposal); PROC (Process)

(method for forming thin film for fabricating liq. crystal **display**)

IT 7440-50-8, Copper, uses

RL: DEV (Device component use); USES (Uses)

(method for forming thin film for fabricating liq. crystal **display** contg.)

L21 ANSWER 6 OF 30 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2002:10817 HCAPLUS

DN 136:77043

TI Switchable reflective film

IN Schmidt, Friedrich Georg; Pawlik, Andreas

PA Creavis Gesellschaft fuer Technologie und Innovation m.b.H., Germany

SO PCT Int. Appl., 38 pp.

CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002001288	A1	20020103	WO 2001-EP6119	20010530
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
DE 10031294	A1	20020110	DE 2000-10031294	20000627
AU 2001072432	A5	20020108	AU 2001-72432	20010530
PRAI DE 2000-10031294	A	20000627		
WO 2001-EP6119	W	20010530		

AB Composite films with elec. switchable, optically reflective properties are described. They have 2 control electrodes and a micro-compartmented film with cavities which contain electrophoretically mobile particles in a suspension liq. The cavities in the micro-compartmented film have a conical or cone-shaped structure and the the projected surface area of the cavity is >1.5 its total area. The total projected surface area is >10 000 .mu.m², the cavities have a depth of 20-250 .mu.m, they are sepd. from each other by **partitions** 2-50 .mu.m thick and they are created through an erosion method. The film and suspension liq. are transparent, the liq. may be colored and contain electro-rheol. additives or particles which may be coated. Electrophoretic particles on the other hand can contain inorg. or org. **pigments** and they may be coated with a polymer. The film itself is coated with a metal or **metal oxide** layer and it contains metal or **metal oxide** flakes. The electrophoretically mobile particles totally reflects incident light. The particles have a plate-like geometry and the ratio of their thickness to diam. is 1:5 to 1:1000. These flexible reflective composite films can be used for reflective areas or for window panes, coverings, greenhouse roofing, packaging, reflectors, textiles, glasses, wind **screens**, signals, car mirrors, headlights, toys or sun protecting devices.

IT Optical reflectors

(flexible composite film; switchable reflective film)

IT Electrophoresis apparatus
(membranes; switchable reflective film)

IT Optical films
(multilayer; switchable reflective film)

IT Polyesters, uses
RL: NUU (Other use, unclassified); USES (Uses)
(polyacrylate-; switchable reflective film)

IT Films
(reflective; switchable reflective film)

IT Synthetic rubber, uses
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(styrene copolymer, block, blend with hydrated PMMA; switchable reflective film)

IT Azo dyes
Electrophoresis
Electrorheological fluids
Fluorescent **pigments**
(switchable reflective film)

IT Carbon black, uses
Polyamides, uses
Polyurethanes, uses
Porphyrins
RL: NUU (Other use, unclassified); USES (Uses)
(switchable reflective film)

IT Electrooptical effect
(switching; switchable reflective film)

IT 9011-14-7, Polymethyl methacrylate
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(also hydrated alkali salt or blend with polystyrol-block-(polyethylene-co-propylene); switchable reflective film)

IT 574-93-6, Phthalocyanine **1309-37-1**, Ferric oxide, uses
1314-23-4, Zirconium oxide (ZrO₂), uses 1344-28-1, Alumina, uses
1345-25-1, Ferrous oxide, uses 13463-67-7, Titanium oxide (TiO₂), uses
RL: NUU (Other use, unclassified); USES (Uses)
(switchable reflective film)

IT 103-71-9D, Phenylisocyanate, polycondensate with polytetramethylene glycol
104-12-1D, p-Chlorophenyl isocyanate, polycondensate with polytetramethylene glycol 25190-06-1D, Polytetramethylene glycol, polycondensate with phenylisocyanate or p-chlorophenyl isocyanate
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(switchable reflective film)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 7 OF 30 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2001:676710 HCAPLUS

DN 135:214838

TI Aluminosilicate glass **spacer** for **display** devices

IN Martin, Dorothee; Gy, Rene; Jousse, Didier

PA Saint-Gobain Glass France, Fr.

SO PCT Int. Appl., 35 pp.

CODEN: PIXXD2

DT Patent

LA French

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI WO 2001066478 A1 20010913 WO 2001-FR680 20010307
 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
 CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM,
 HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS,
 LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO,
 RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ,
 VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
 BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
 FR 2806075 A1 20010914 FR 2000-2936 20000307
 FR 2806075 B1 20020920
 EP 1261555 A1 20021204 EP 2001-913950 20010307
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
 US 2003137230 A1 20030724 US 2002-204988 20021029
 PRAI FR 2000-2936 A 20000307
 WO 2001-FR680 W 20010307
 AB Aluminosilicate glass thin layers designed to maintain two substrates
 spaced apart are produced by lamination of a preform, its glass matrix
 having elec. cond., in vol., of 10-13-10-5 ohm-1.cm-1. The
 aluminosilicate glass contains, in mol.%, 25-75 SiO₂, 0-40 alumina, 0-10
 zirconia, 0-10 alkali **metal oxides** (such as Li₂O),
 0-40 alk. earth oxides and 1-30 transition **metal oxides**
 , and optionally 1-25 rare earth oxides. Preferably, the glass
spacer also has a modulus of elasticity >90 GPa and thermal
 expansion coeff. between 20 and 300.degree.C of 60-95 x 10⁻⁷ K⁻¹. The
 glass **spacer** layer are used for **display** devices.
 IT Electric conductivity
 Plasma **display** panels
 Thermal expansion
 Young's modulus
 (aluminosilicate glass **spacer** for **display** devices)
 IT Alkali **metal oxides**
 Alkaline earth oxides
 Aluminosilicate glasses
 Rare earth oxides
 Transition **metal oxides**
 RL: PEP (Physical, engineering or chemical process); PROC (Process)
 (zirconium aluminosilicate glasses; aluminosilicate glass
spacer for **display** devices)
 IT 1304-28-5, Barium oxide, processes 1305-78-8, Calcia, processes
1309-37-1, Ferric oxide, processes 1309-48-4, Magnesia,
 processes 1312-81-8, Lanthanum oxide 1313-59-3, sodium oxide Na₂O,
 processes 1314-11-0, Strontia, processes 1314-13-2, Zinc oxide ZnO,
 processes 1314-23-4, Zirconia, processes 1314-36-9, Yttria, processes
 1314-62-1, Vanadium oxide, processes 1344-28-1, Alumina, processes
 7631-86-9, Silica, processes 12057-24-8, lithium oxide Li₂O, processes
 12136-45-7, Potassium oxide, processes
 RL: PEP (Physical, engineering or chemical process); PROC (Process)
 (zirconium aluminosilicate glasses; aluminosilicate glass
spacer for **display** devices)
 RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT
 L21 ANSWER 8 OF 30 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 2001:345343 HCAPLUS
 DN 134:347341
 TI Lead-free low-melting-point glass compositions, glass materials for plasma
display panel (PDP) **ribs**, and PDP assembled with

ribs

IN Tomita, Takayuki; Nakamura, Shoichi; Okuno, Haruhiko
 PA Okuno Chemical Industry Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF

DT Patent
 LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001130926	A2	20010515	JP 1999-309240	19991029
PRAI	JP 1999-309240		19991029		
AB	The glass compns. contain ZnO 28-40, B2O3 6-17, SiO2 32-45, R2O (Li2O + Na2O + K2O) 6-14, RF (LiF + NaF + KF) 0.5-8, V2O5 0.5-6, ZrO2 0-3, Al2O3 0-5, RO (CaO + BaO + MgO) 0-5%. The glass materials comprise 60-99% of the glass compns. and 1-40% .gtoreq.1 inorg. pigments and inorg. fillers.				
IT	Plasma display panels (Pb-free low-m.p. glass compns. and their filler/ pigment blends for PDP ribs)				
IT	Borosilicate glasses RL: DEV (Device component use); USES (Uses) (sodium zinc borosilicate, lithium sodium zinc borosilicate; Pb-free low-m.p. glass compns. and their filler/ pigment blends for PDP ribs)				
IT	1308-38-9 , Chromium oxide, uses 1317-38-0 , Copper oxide (CuO), uses RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses) (black pigments contg.; Pb-free low-m.p. glass compns. and their filler/ pigment blends for PDP ribs)				
IT	1344-28-1 , Alumina, uses RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses) (filler; Pb-free low-m.p. glass compns. and their filler/ pigment blends for PDP ribs)				
IT	1303-86-2 , Boron oxide, uses 1304-28-5 , Barium oxide, uses 1305-78-8 , Calcium oxide, uses 1309-48-4 , Magnesia, uses 1313-59-3 , Sodium oxide, uses 1314-13-2 , Zinc oxide, uses 1314-62-1 , Vanadium oxide, uses 7631-86-9 , Silica, uses 7681-49-4 , Sodium fluoride, uses 7789-23-3 , Potassium fluoride 7789-24-4 , Lithium fluoride, uses 12057-24-8 , Lithium oxide, uses 12136-45-7 , Potassium oxide, uses RL: DEV (Device component use); USES (Uses) (lithium sodium zinc borosilicate glass components; Pb-free low-m.p. glass compns. and their filler/ pigment blends for PDP ribs)				
IT	13463-67-7 , Titania, uses RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses) (white pigment ; Pb-free low-m.p. glass compns. and their filler/ pigment blends for PDP ribs)				

L21 ANSWER 9 OF 30 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 2001:319844 HCAPLUS
 DN 134:330430

TI Molding composition containing a debinding catalyst for ceramic **barrier ribs** of plasma **display** panels
 IN Yokoyama, Chikafumi; Sugimoto, Takai; Chiu, Raymond C.
 PA 3M Innovative Properties Co., USA
 SO PCT Int. Appl., 28 pp.
 CODEN: PIXXD2

DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001030723	A1	20010503	WO 2000-US2597	20000201
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	US 6306948	B1	20011023	US 1999-427234	19991026
	EP 1230192	A1	20020814	EP 2000-907110	20000201
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
	JP 2003512514	T2	20030402	JP 2001-533081	20000201
	US 2002007000	A1	20020117	US 2001-941122	20010828
PRAI	US 1999-427234	A	19991026		
	WO 2000-US2597	W	20000201		
AB	The molding compn. (e.g., a photosensitive paste) includes an (a) inorg. component such as a glass or ceramic powder esp. TiO ₂ , (b) an org. binder component capable of being hardened by exposure to heat, light, or an electron beam, (c) a debinding catalyst contg. a transition metal oxide , salt, or complex, e.g., Cu ₂ O, CuSO ₄ , Co(NO ₃) ₂ , or Cu(OAc) ₂ , and (d) a silane coupling agent. The molding compn. is capable of lowering the sintering temp. to req. 5000, for example, when the molding compn. is used to make ceramic microstructures such as barrier ribs for plasma display panels.				
IT	Ceramics (TiO ₂ or Al ₂ O ₃ ; photosensitive molding compn. contg. a debinding catalyst for ceramic barrier ribs for display panels)				
IT	Plasma display panels (barrier ribs for; photosensitive molding compn. contg. a debinding catalyst for ceramic barrier ribs for display panels)				
IT	Silanes RL: MOA (Modifier or additive use); USES (Uses) (coupling agent; photosensitive molding compn. contg. a debinding catalyst for ceramic barrier ribs for display panels)				
IT	Molding (photosensitive ceramic paste; photosensitive molding compn. contg. a debinding catalyst for ceramic barrier ribs for display panels)				
IT	162881-26-7, Bis(2,4,6-trimethylbenzoyl)phenylphosphine oxide RL: MOA (Modifier or additive use); USES (Uses) (Irgacure 819 from Ciba-Geigy Co. (Japan); photosensitive molding compn. contg. a debinding catalyst for ceramic barrier ribs for display panels)				
IT	80-05-7, Bisphenol A, uses 107-88-0, 1,3-Butanediol 109-16-0, Triethylene glycol dimethacrylate 868-77-9, 2-Hydroxyethyl methacrylate RL: MOA (Modifier or additive use); USES (Uses) (binder component; photosensitive molding compn. contg. a debinding catalyst for ceramic barrier ribs for display panels)				
IT	142-71-2, Copper diacetate 1317-39-1, Copper oxide (Cu ₂ O), uses				

7758-98-7, Copper sulfate (CuSO₄), uses 10141-05-6, Cobalt nitrate
 RL: CAT (Catalyst use); USES (Uses)
 (debinding catalyst; photosensitive molding compn. contg. a debinding
 catalyst for ceramic **barrier ribs** for
display panels)

IT 1344-28-1, Alumina, processes 13463-67-7, Titanium oxide, processes
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or
 engineered material use); PROC (Process); USES (Uses)
 (powder; photosensitive molding compn. contg. a debinding catalyst for
 ceramic **barrier ribs** for **display** panels)

IT 7697-37-2, Nitric acid, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (solvent component; photosensitive molding compn. contg. a debinding
 catalyst for ceramic **barrier ribs** for
display panels)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 10 OF 30 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2000:894944 HCAPLUS

DN 134:166974

TI Carbon nanotubes (CNTs) from oxide solid solution: A way to composite
 powders, composite materials and isolated nanotubes

AU Laurent, Christophe; Peigney, Alain; Flahaut, Emmanuel; Bacsá, Revathi;
 Rousset, Abel

CS Laboratoire de Chimie des Matériaux Inorganiques, ESA CNRS 5070,
 Université Paul-Sabatier, Toulouse, 31062/4, Fr.

SO Science and Application of Nanotubes, [Proceedings of Nanotube '99, an
 International Conference], East Lansing, MI, United States, July 24-27,
 1999 (2000), Meeting Date 1999, 151-168. Editor(s): Tomanek, David;
 Enbody, Richard J. Publisher: Kluwer Academic/Plenum Publishers, New York,
 N. Y.

CODEN: 69ASXC

DT Conference

LA English

AB The ability to prep. CNTs-**metal-oxide** powders that
 contain enormous amts. of CNTs, most of which are single-**wall**
 carbon nanotubes (SWNT) or small multi-**wall** carbon nanotubes
 (MWNT) with internal and external diams. in the 0.5-5 nm range was
 demonstrated. The results confirmed that only the smallest **metal**
particles (smaller than ca. 6 nm) may catalyze the formation of
 SWNT and small MWNT and underline the need that the catalyst is in the
 form of such nanoparticles at a temp. >8000 in the catalysis methods. In
 this way, the redn. of oxide solid solns. allows to produce **metal**
particles at a temp. which is high enough for the hydrocarbon gas
 to somehow interact with them so as to form the nanotubes prior to any
 exaggerate particle growth. In the case of MgO-based materials, the oxide
 matrix and part of the Co catalyst can be dissolved by a combination of
 air oxidn. and mild acid treatment that does not damage the CNTs. The
 proposed method could be a real improvement in the low-cost, large-scale
 synthesis of CNTs. Dense materials can be prepd. by hot-pressing the
 composite powders. These ceramic-matrix composites have acceptable mech.
 properties and interestingly **display** an elec. cond. owing to the
 dispersion of a network of CNTs bundles, which could lead to some
 applications.

IT Nanotubes

RL: PEP (Physical, engineering or chemical process); PRP (Properties);
 PROC (Process)

(carbon, synthesis of; properties of carbon nanotubes synthesized by
 redn. of **metal oxide** solid solns. with H₂-CH₄)

IT Nanoparticles

- (carbon-metal-oxide powders; properties of carbon nanotubes synthesized by redn. of **metal oxide** solid solns. with H₂-CH₄)
- IT Electric conductivity
Mechanical properties
(ceramic-matrix composites contg. carbon nanotubes; properties of carbon nanotubes synthesized by redn. of **metal oxide** solid solns. with H₂-CH₄)
- IT Ceramic composites
(ceramic-matrix composites; properties of carbon nanotubes synthesized by redn. of **metal oxide** solid solns. with H₂-CH₄)
- IT Sintering
(hot pressing, ceramic-matrix composites contg. carbon nanotubes; properties of carbon nanotubes synthesized by redn. of **metal oxide** solid solns. with H₂-CH₄)
- IT Reduction
(manuf. of carbon nanotubes by; properties of carbon nanotubes synthesized by redn. of **metal oxide** solid solns. with H₂-CH₄)
- IT Particles
RL: MOA (Modifier or additive use); USES (Uses)
(metal, nano-; properties of carbon nanotubes synthesized by redn. of **metal oxide** solid solns. with H₂-CH₄)
- IT Solid solutions
(of **metal oxides**; properties of carbon nanotubes synthesized by redn. of **metal oxide** solid solns. with H₂-CH₄)
- IT 12678-40-9D, Aluminum iron oxide, Al₂-2xFe₂xO₃
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(amorphous, cubic and rhombohedral forms; properties of carbon nanotubes synthesized by redn. of Al₂-2xFe₂xO₃ solid solns. with H₂-CH₄)
- IT 7440-48-4, Cobalt, uses
RL: CAT (Catalyst use); USES (Uses)
(catalyst; properties of carbon nanotubes synthesized by redn. of **metal oxide** solid solns. with H₂-CH₄)
- IT 1344-28-1, Alumina, uses 12011-67-5, Iron carbide (Fe₃C)
RL: MOA (Modifier or additive use); USES (Uses)
(component of oxide solid solns.; properties of carbon nanotubes synthesized by redn. of Al₂-2xFe₂xO₃ solid solns. with H₂-CH₄)
- IT 12655-66-2, Cobalt 50, iron 50 (atomic)
RL: MOA (Modifier or additive use); USES (Uses)
(component of oxide solid solns.; properties of carbon nanotubes synthesized by redn. of MgO-based solid solns. with H₂-CH₄)
- IT 1307-96-6, Cobalt oxide, uses 1313-99-1, Nickel oxide (NiO), uses **1345-25-1**, Iron oxide (FeO), uses
RL: MOA (Modifier or additive use); USES (Uses)
(component of oxide solid solns.; properties of carbon nanotubes synthesized by redn. of **metal oxide** solid solns. with H₂-CH₄)
- IT 124333-01-3, Aluminum iron oxide (Al_{1.8}Fe_{0.2}O₃)
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(matrix of oxide solid solns.; properties of carbon nanotubes synthesized by redn. of Al₂-2xFe₂xO₃ solid solns. with H₂-CH₄)
- IT 110584-32-2, Cobalt magnesium oxide (Co_{0.1}Mg_{0.9}O) 122327-06-4, Magnesium nickel oxide (Mg_{0.6}Ni_{0.4}O)
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(matrix of oxide solid solns.; properties of carbon nanotubes synthesized by redn. of MgO-based solid solns. with H₂-CH₄)
- IT 12068-51-8, Aluminum magnesium oxide (Al₂MgO₄)
RL: PEP (Physical, engineering or chemical process); PROC (Process)

(oxide matrix; properties of carbon nanotubes synthesized by redn. of MgAl₂O₄ solid solns. with H₂-CH₄)

IT 1309-48-4, Magnesium oxide (MgO), processes
 RL: PEP (Physical, engineering or chemical process); PROC (Process)
 (oxide matrix; properties of carbon nanotubes synthesized by redn. of MgO-based solid solns. with H₂-CH₄)

IT 7439-89-6, Iron, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (.gamma.-Fe particles, component of oxide solid solns.; properties of carbon nanotubes synthesized by redn. of Al₂-2xFe₂xO₃ solid solns. with H₂-CH₄)

RE.CNT 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 11 OF 30 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2000:166134 HCAPLUS

DN 132:229581

TI Composition for color phosphor pattern formation, manufacture of plasma **display** rear plate, and plasma **display** device

IN Asano, Masaaki

PA Dainippon Printing Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000075475	A2	20000314	JP 1998-248268	19980902
PRAI	JP 1998-248268		19980902		
AB	The compn., manufd. by kneading a binder resin, a photopolymerizable monomer, a photoinitiator, phosphor powders, and an org. solvent, contains a coloring agent. The manuf. method involves (1) applying the compn. between several barrier ribs on a substrate and drying, (2) exposing the compn. via a photomask having a desirable pattern, (3) developing and removing an unexposed region, and (4) sintering a residual compn. pn an exposed region to obtain the plate. The device has the plate. The plate is manufd. by the method with high productivity.				
IT	Optical imaging devices Phosphors (phosphor pattern formation compn. contg. coloring agent for plasma display)				
IT	1309-37-1 , TOR (pigment), uses RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses) (TOR; phosphor pattern formation compn. contg. coloring agent for plasma display)				
IT	12254-04-5D, Aluminum barium magnesium oxide (Al ₁₀ BaMgO ₁₇), europium-activated 143550-33-8, KX 501A 165104-34-7, P 1G1S RL: DEV (Device component use); USES (Uses) (phosphor pattern formation compn. contg. coloring agent for plasma display)				
IT	248956-83-4, TM green 3330 260964-69-0, TM Blue 3450 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses) (phosphor pattern formation compn. contg. coloring agent for plasma display)				

L21 ANSWER 12 OF 30 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2000:37843 HCAPLUS

DN 132:86025
 TI Inorganic particles, photosensitive pastes, and manufacture of plasma **display** panels using the pastes
 IN Masaki, Takashige; Moriya, Takeshi; Okino, Akiko
 PA Toray Industries, Inc., Japan
 SO Jpn. Kokai Tokkyo Koho, 15 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000016836	A2	20000118	JP 1998-183833	19980630
PRAI	JP 1998-183833		19980630		

AB Inorg. fine-grain particles, having stimulus value Y = 20-80 before firing and Y = 5-30 after firing, is claimed. Photosensitive pastes, contg. inorg. fine-grain powders, having stimulus value Y = 20-60 when forming a layer of 50 .mu.m thick and Y = 2-20 after firing are also claimed. Also claimed is manuf. of plasma **display** panels by application of a photosensitive paste, contg. the above stated particles and a photosensitive org. component; drying to give a layer of stimulus value Y = 20-60; and patterning by a photolithog. process to form **barrier ribs** having stimulus value Y = 2-20. Plasma **displays** with high contrast and high aspect ratio are obtained.

IT Azo dyes
 (UV absorbers in pastes; inorg. particles for photosensitive pastes used in prepn. of **barrier ribs** for plasma **display** panels)

IT Aluminoborosilicate glasses
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (barium lithium aluminoborosilicate, inorg. particles contg.; inorg. particles for photosensitive pastes used in prepn. of **barrier ribs** for plasma **display** panels)

IT **Pigments**, nonbiological
 (inorg. black particles; inorg. particles for photosensitive pastes used in prepn. of **barrier ribs** for plasma **display** panels)

IT Liquid crystal **displays**
 Photoimaging materials
 Plasma **display** panels
 Powders
 UV stabilizers
 (inorg. particles for photosensitive pastes used in prepn. of **barrier ribs** for plasma **display** panels)

IT Polyethers, preparation
 RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
 (inorg. particles for photosensitive pastes used in prepn. of **barrier ribs** for plasma **display** panels)

IT Glass powders
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (inorg. particles; inorg. particles for photosensitive pastes used in prepn. of **barrier ribs** for plasma **display** panels)

IT Fillers
 (inorg.; inorg. particles for photosensitive pastes used in prepn. of **barrier ribs** for plasma **display** panels)

IT Pastes
 (photosensitive; inorg. particles for photosensitive pastes used in

prepn. of **barrier ribs** for plasma **display** panels)

IT 1302-88-1, Cordierite 1302-93-8, Mullite 1303-86-2, Boron oxide, uses 1304-28-5, Barium oxide, uses **1308-38-9**, Chromium oxide (Cr2O3), uses **1309-37-1**, Iron oxide (Fe2O3), uses 1313-99-1, Nickel oxide, uses 1314-13-2, Zinc oxide, uses 1314-23-4, Zirconia, uses 1344-28-1, Aluminum oxide, uses 7439-89-6, Iron, uses 7439-96-5, Manganese, uses 7440-02-0, Nickel, uses 7440-18-8, Ruthenium, uses 7440-32-6, Titanium, uses 7440-47-3, Chromium, uses 7440-48-4, Cobalt, uses 7631-86-9, Silica, uses 11104-61-3, Cobalt oxide 11113-84-1, Ruthenium oxide 11129-60-5, Manganese oxide 12047-27-7, Barium titanate, uses 12057-24-8, Lithium oxide, uses 13463-67-7, Titanium oxide, uses

RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)

(inorg. particles contg.; inorg. particles for photosensitive pastes used in prepn. of **barrier ribs** for plasma **display** panels)

IT 229305-96-8P, MGP 400-X 4007 copolymer

RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)

(inorg. particles for photosensitive pastes used in prepn. of **barrier ribs** for plasma **display** panels)

IT 1305-78-8, Calcium oxide, uses 1309-48-4, Magnesium oxide, uses

RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)

(inorg. particles for photosensitive pastes used in prepn. of **barrier ribs** for plasma **display** panels)

IT 85-83-6, Sudan IV 131-56-6, 2,4-Dihydroxybenzophenone 6197-30-4, Uvinul 3039

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

(photosensitive pastes contg.; inorg. particles for photosensitive pastes used in prepn. of **barrier ribs** for plasma **display** panels)

L21 ANSWER 13 OF 30 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1999:563885 HCAPLUS

DN 131:158910

TI Water-based multicolored coatings for exterior **walls** and their manufacture

IN Zhang, Songyuan

PA Peop. Rep. China

SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 7 pp.

CODEN: CNXXEV

DT Patent

LA Chinese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1117982	A	19960306	CN 1994-111373	19940705
PRAI	CN 1994-111373		19940705		

AB Title coatings contain sun-screening agents (A) for textiles and are prepd. by grinding, pelletizing, sieving, mixing (stirring), and product finishing. A compn. comprising polyvinyl formal 83, poly(vinyl acetate) (I) emulsion 11, an Fe oxide, 0.2, MgO 3, A 2, and water-sol. modified paraffin wax (B) 0.8% was made into colored particles, which were sieved and mixed with aq. hydroxyethyl cellulose soln., more B, more I, acrylic styrene resin emulsion, more A, and propylene glycol to form a title coating.

IT **Walls** (construction)

- (colored resin particle- and textile sun screener-contg. aq. coatings for exterior **walls**)
- IT Sunscreens
(for textiles; colored resin particle- and textile sun screener-contg. aq. coatings for exterior **walls**)
- IT Polyvinyl acetals
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(formals, for manuf. of colored particles; colored resin particle- and textile sun screener-contg. aq. coatings for exterior **walls**)
- IT Paraffin waxes, uses
RL: MOA (Modifier or additive use); POF (Polymer in formulation); USES (Uses)
(modified; colored resin particle- and textile sun screener-contg. aq. coatings for exterior **walls**)
- IT Oxides (inorganic), uses
RL: MOA (Modifier or additive use); POF (Polymer in formulation); USES (Uses)
(**pigments**, for manuf. of colored particles; colored resin particle- and textile sun screener-contg. aq. coatings for exterior **walls**)
- IT Textiles
(sun **screens**; colored resin particle- and textile sun screener-contg. aq. coatings for exterior **walls**)
- IT Coating materials
(water-thinned; colored resin particle- and textile sun screener-contg. aq. coatings for exterior **walls**)
- IT 1309-37-1, Iron oxide (Fe₂O₃), uses 12227-89-3, Iron oxide black .. 51274-00-1, Iron oxide yellow 222961-35-5, Iron oxide green
RL: MOA (Modifier or additive use); POF (Polymer in formulation); USES (Uses)
(colored resin particle- and textile sun screener-contg. aq. coatings for exterior **walls**)
- IT 1309-48-4, Magnesium oxide, uses
RL: MOA (Modifier or additive use); POF (Polymer in formulation); USES (Uses)
(for manuf. of colored particles; colored resin particle- and textile sun screener-contg. aq. coatings for exterior **walls**)
- IT 57-55-6, 1,2-Propanediol, uses
RL: MOA (Modifier or additive use); POF (Polymer in formulation); USES (Uses)
(in coatings; colored resin particle- and textile sun screener-contg. aq. coatings for exterior **walls**)
- IT 100-42-5D, Styrene, polymers with acrylic compds. 9003-20-7, Poly(vinyl acetate) 9004-62-0, Hydroxyethyl cellulose
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(in coatings; colored resin particle- and textile sun screener-contg. aq. coatings for exterior **walls**)

L21 ANSWER 14 OF 30 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1999:392599 HCAPLUS

DN 131:49471

TI Hydromorphone controlled-release dosage forms for pain management

IN Merrill, Sonya; Ayer, Atul D.; Chadha, Navjot; Kuczynski, Anthony L.

PA ALZA Corporation, USA

SO U.S., 24 pp., Cont.-in-part of U.S. 5,702,725.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5914131	A	19990622	US 1997-935223	19970922
	US 5529787	A	19960625	US 1994-271593	19940707
	EP 1025845	A2	20000809	EP 1999-204122	19950623
	EP 1025845	A3	20001213		
	EP 1025845	B1	20021113		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE				
	US 5702725	A	19971230	US 1996-611294	19960305
	US 2001038856	A1	20011108	US 2001-905526	20010713
PRAI	US 1994-271593	A1	19940707		
	US 1996-611294	A2	19960305		
	EP 1995-924665	A3	19950623		
	US 1997-935223	A3	19970922		
	US 1999-244188	A1	19990204		
AB	An oral controlled-release dosage form for the management of pain comprises (1) a drug layer contg. hydromorphone, (2) a delivery layer, and (3) a semi-permeable wall. An extended-release tablets contg. 35 mg hydromorphone HCl were prepd. by mixing 175 g hydromorphone HCl, 647.5 g of PEG, and 43.75 g of polyvinylpyrrolidone; 331 g of alc. was added to the mixt. to obtain a wet granulation which was then passed through a 20-mesh screen, dried, lubricated with 8.75 g Mg stearate and compressed into tablets. A dosage form comprising 2-75 mg of hydromorphone was administered over 24 h to produce a plasma hydromorphone concn. of 0.01-10 ng/mL.				
IT	Analgesics				
	Pigments, nonbiological				
	(controlled-release dosage forms contg. hydromorphone for pain management)				
IT	Bentonite, biological studies				
	Polyoxyalkylenes, biological studies				
	RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)				
	(controlled-release dosage forms contg. hydromorphone for pain management)				
IT	Drug delivery systems				
	(controlled-release, osmotic devices; controlled-release dosage forms contg. hydromorphone for pain management)				
IT	Drug delivery systems				
	(controlled-release; controlled-release dosage forms contg. hydromorphone for pain management)				
IT	Antioxidants				
	(pharmaceutical; controlled-release dosage forms contg. hydromorphone for pain management)				
IT	Drug delivery systems				
	(tablets, sustained-release; controlled-release dosage forms contg. hydromorphone for pain management)				
IT	71-68-1, Hydromorphone hydrochloride 466-99-9, Hydromorphone				
	25333-57-7, Hydromorphone sulfate 174462-47-6, Hydromorphone oleate				
	174462-48-7, Hydromorphone acetate 174462-49-8, Hydromorphone phosphate				
	174462-50-1 227622-20-0 227622-21-1 227622-22-2 227622-23-3				
	227622-24-4 227622-25-5 227622-26-6 227622-27-7 227622-28-8				
	227622-29-9 227622-30-2 227622-31-3 227622-32-4 227622-34-6				
	RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)				
	(controlled-release dosage forms contg. hydromorphone for pain management)				
IT	50-99-7, D-Glucose, biological studies 57-11-4, Octadecanoic acid, biological studies 57-13-6, Urea, biological studies 57-48-7, Fructose, biological studies 57-50-1, Sucrose, biological studies 58-95-7, D-.alpha.-Tocopherol acetate 63-42-3, Lactose 69-65-8,				

D-Mannitol 87-69-4, biological studies 87-89-8, myo-Inositol 121-79-9, Propyl gallate 128-37-0, Butylated hydroxytoluene, biological studies 137-66-6, Ascorbyl palmitate 143-18-0, Potassium oleate 408-35-5, Sodium palmitate 512-69-6, Raffinose 556-32-1, Magnesium succinate 557-04-0, Magnesium stearate 822-16-2, Sodium stearate 1309-37-1, Iron oxide (Fe₂O₃), biological studies 1592-23-0, Calcium stearate 7447-41-8, Lithium chloride (LiCl), biological studies 7487-88-9, Magnesium sulfate, biological studies 7647-14-5, Sodium chloride (NaCl), biological studies 7757-82-6, Sodium sulfate, biological studies 7778-77-0, Potassium acid phosphate 7778-80-5, Potassium sulfate, biological studies 9002-81-7, Poly(methylene oxide) 9003-39-8, Polyvinylpyrrolidone 9004-32-4, Sodium CM-cellulose 9004-34-6D, Cellulose, esters and ethers, biological studies 9004-36-8 9004-62-0, Hydroxyethyl cellulose 9004-64-2, Hydroxypropyl cellulose 9004-64-2D, Hydroxypropyl cellulose, derivs. 9004-65-3, HPMC 9005-25-8, Starch, biological studies 9012-09-3, Cellulose triacetate 9062-14-0, Hydroxypropyl ethyl cellulose 10191-41-0, dl- α -Tocopherol 10377-48-7, Lithium sulfate 12227-89-3, Black iron oxide 25013-16-5, Butylated hydroxyanisole 25037-54-1 25086-89-9, Vinyl acetate-vinyl pyrrolidone copolymer 25190-06-1 25322-68-3 25322-69-4 26008-54-8, Vinyl alcohol-vinyl pyrrolidone copolymer 37208-08-5, Hydroxybutyl cellulose 38619-93-1 38783-78-7 51274-00-1, Yellow iron oxide 54848-04-3, Potassium carboxymethyl cellulose 61597-00-0 119663-63-7 161051-70-3 178231-94-2
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (controlled-release dosage forms contg. hydromorphone for pain management)

IT 9004-34-6, Cellulose, biological studies
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (microcryst.; controlled-release dosage forms contg. hydromorphone for pain management)

RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 15 OF 30 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1999:56848 HCAPLUS

DN 130:131892

TI Plasma **display** device having **barrier rib**
 with black upper portion and its manufacture

IN Iguchi, Yuichiro; Masaki, Takaki; Iwanaga, Keiji

PA Toray Industries, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11016500	A2	19990122	JP 1997-167652	19970624
PRAI	JP 1997-167652		19970624		

AB The **display** is characterized by the **barrier rib** prepd. by forming a pattern corresponding to the **rib** on a glass support, applying a paste contg. a black **pigment** on the upper portion, and firing. The **display** is manufd. by a process including (a) transferring the paste from a roller or (b) transferring the paste from a smooth metal surface, a glass plate, or resin sheet as the support. The simple process (compared with conventional method, e.g., using photoresist, photosensitive film, etc.) can provide the **display** with good contrast.

IT Glass, uses

RL: DEV (Device component use); USES (Uses)

(aluminum bismuth boron chromium cobalt iron silicon titanium zinc zirconium; manuf. of plasma **display** including formation of glass **barrier rib** with black upper portion)

IT **Pigments**, nonbiological
(black; manuf. of plasma **display** including formation of glass **barrier rib** with black upper portion by transferring)

IT Plasma **display** panels
Transfers
(manuf. of plasma **display** including formation of glass **barrier rib** with black upper portion by transferring)

IT 1304-76-3, Bismuth oxide, uses 1313-59-3, Sodium oxide, uses 7440-69-9, Bismuth, uses 12057-24-8, Lithium oxide, uses 12136-45-7, Potassium oxide, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(manuf. of plasma **display** including formation of glass **barrier rib** with black upper portion and white bottom portion contg.)

IT **1309-37-1**, Iron oxide (Fe₂O₃), uses 11104-61-3, Cobalt oxide 11118-57-3, Chromium oxide
RL: TEM (Technical or engineered material use); USES (Uses)
(manuf. of plasma **display** including formation of glass **barrier rib** with black upper portion contg.)

L21 ANSWER 16 OF 30 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1999:35275 HCAPLUS
DN 130:131883
TI Composition for **barrier rib** of plasma **display** panel, plasma **display** panel using it, and its manufacture
IN Kato, Isao
PA Toppan Printing Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11007126	A2	19990112	JP 1997-159958	19970617
PRAI	JP 1997-159958		19970617		

AB The title compn. comprises a photosensitive compn. which has dark color and elec. insulating properties after being fired. The manufg. method involves the following steps: (1) patterning a photosensitive compn. laminated on a substrate by photolithog., (2) filling grooves formed between the patterns with a compn. to form a lower **barrier rib**, (3) covering the lower **barrier rib** with the title compn. to form an upper **barrier rib** by photolithog., and (4) removing the photosensitive compn. and firing the substrate for formation of the **barrier rib**. In the above method, the photosensitive compn. may be combustible for its removal during the firing process. The obtained plasma **display** panel is also claimed. The **barrier rib** having the dark colored layer with uniform thickness on its top can be formed by the above method and the plasma **display** panel has high contrast.

IT Acrylic polymers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(binder; photosensitive compn. for elec. insulating **barrier rib** having dark colored layer for plasma **display** panel)

IT Lead glasses
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES

(Uses)
 (lead aluminosilicate, insulator; photosensitive compn. for elec. insulating **barrier rib** having dark colored layer for plasma **display** panel)

IT Electric insulators
 Plasma **display** panels
 (photosensitive compn. for elec. insulating **barrier rib** having dark colored layer for plasma **display** panel)

IT 1308-04-9, Cobalt oxide (Co2O3) **1308-38-9**, Chromium oxide (Cr2O3), processes **1309-37-1**, Iron oxide (Fe2O3), processes 1313-13-9, Manganese oxide (MnO2), processes 1344-28-1, Alumina, processes 7631-86-9, Silica, processes
 RL: DEV (Device component use); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (black **pigments** contg.; photosensitive compn. for elec. insulating **barrier rib** having dark colored layer for plasma **display** panel)

IT 79-10-7D, Acrylic acid, esters with oligoester polyols, hexa
 RL: TEM (Technical or engineered material use); USES (Uses)
 (photosensitive compn. for elec. insulating **barrier rib** having dark colored layer for plasma **display** panel)

L21 ANSWER 17 OF 30 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 1997:717548 HCAPLUS
 DN 128:9522
 TI Formation of **barrier ribs** for plasma **display** panels
 IN Sakamoto, Naohito; Nakahara, Hiroyuki; Miura, Ryoichi
 PA Fujitsu Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09283016	A2	19971031	JP 1996-88246	19960410
	JP 3407534	B2	20030519		
PRAI	JP 1996-88246		19960410		

AB The title formation involves forming a recess-patterned photoresist layer on a substrate, filling a glass paste into the recesses to form glass sidewalls to the recesses, and subsequently removing the resist and sintering the glass sidewalls. The process provides glass **barrier ribs** at a low manufg. cost and a high precision.

IT Sintering
 (glass sidewalls; formation of **barrier ribs** for plasma **display** panels)

IT Pastes
 (glass; formation of **barrier ribs** for plasma **display** panels)

IT **Pigments**, nonbiological
 (inorg.; formation of **barrier ribs** for plasma **display** panels)

IT Borosilicate glasses
 RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)
 (lead borosilicate, sidewalls; formation of **barrier ribs** for plasma **display** panels)

IT Construction materials
(panels, plasma **display**; formation of **barrier ribs** for plasma **display** panels)

IT Liquid crystal **displays**
Liquid crystal **displays**
(plasma; formation of **barrier ribs** for plasma **display** panels)

IT Photoresists
(recess-patterned; formation of **barrier ribs** for plasma **display** panels)

IT **1308-38-9**, Chromium oxide (Cr₂O₃), uses
RL: MOA (Modifier or additive use); USES (Uses)
(additive in glass; formation of **barrier ribs** for plasma **display** panels)

IT 9004-34-6, Cellulose, properties
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(binder; formation of **barrier ribs** for plasma **display** panels)

L21 ANSWER 18 OF 30 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1997:281221 HCAPLUS

DN 126:270426

TI Color liquid crystal **display** device with laminate of colored layers as the **spacer** on black matrixes

IN Goto, Tetsuya; Yamada, Shinichi

PA Toray Industries, Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 09043592	A2	19970214	JP 1995-197680	19950802
	JP 3358400	B2	20021216		
PRAI	JP 1995-197680		19950802		

AB The **display** device has (A) a color filter, which has a **spacer** comprising a laminate of a blue layer, a red layer, and a green layer on each black matrix, and (B) an insulating film on the active matrix substrate at the site where substrate is in contact with the **spacer**. The above **spacer** has no problem, such as degrdn. of displaying quality due to light scattering and transmission by using conventional bead **spacers**.

IT Liquid crystal **displays**
(color; color liq. crystal **display** device with laminate of 3 primary color layers as a **spacer** on black matrix and insulating film on active matrix substrate at the site in contact with the **spacer**)

IT Polysiloxanes, preparation
Polysiloxanes, preparation
RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
(polyimide-; color liq. crystal **display** device with laminate of 3 primary color layers as a **spacer** on black matrix and insulating film on active matrix substrate at the site in contact with the **spacer**)

IT Polyimides, preparation
Polyimides, preparation
RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
(polysiloxane-; color liq. crystal **display** device with

- laminate of 3 primary color layers as a **spacer** on black matrix and insulating film on active matrix substrate at the site in contact with the **spacer**)
- IT 147-14-8, C.I. 74160 1309-48-4, Magnesia, uses 4051-63-2, Pigment red 177 14302-13-7, C.I. 74265
 RL: DEV (Device component use); USES (Uses)
 (color liq. crystal **display** device with laminate of 3 primary color layers as a **spacer** on black matrix and insulating film on active matrix substrate at the site in contact with the **spacer**)
- IT 84329-59-9P
 RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
 (color liq. crystal **display** device with laminate of 3 primary color layers as a **spacer** on black matrix and insulating film on active matrix substrate at the site in contact with the **spacer**)
- IT 1304-56-9, Beryllia, uses 1306-38-3, Ceria, uses 1308-38-9, Chromium oxide (Cr2O3), uses 1314-23-4, Zirconia, uses 1314-61-0, Tantalum oxide 1344-28-1, Alumina, uses 7631-86-9, Silica, uses 11098-99-0, Molybdenum oxide 12033-89-5, Silicon nitride, uses 13463-67-7, Titania, uses
 RL: DEV (Device component use); USES (Uses)
 (insulating film; color liq. crystal **display** device with laminate of 3 primary color layers as a **spacer** on black matrix and insulating film on active matrix substrate at the site in contact with the **spacer**)

L21 ANSWER 19 OF 30 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1996:271244 HCAPLUS

DN 124:328572

TI Black particles and their manufacture

IN Nakai, Mitsuru; Koyanagi, Tsuguo; Komatsu, Michio; Tanaka, Yoshitsune; Ishikubo, Takafumi

PA Catalysts & Chem Ind Co, Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08040707	A2	19960213	JP 1994-182436	19940803
PRAI	JP 1994-182436		19940803		

AB The particles comprise **metal oxide** grains coated with a black layer and a **metal oxide** layer on it. The particles show a blackness of .ltoreq.10% Y value in JIS Z 8701 XYZ coordinates. The manuf. comprises a heat-treatment of an (acid-contg.) org. dispersed soln. of water-contg. **metal oxide** grains at 80-200.degree. in presence of liq. phase to form an org. group-contg. layer on the surface of the **metal oxide** grains, coating their surface with a **metal oxide** precursor, and heating it at .gtoreq.250.degree. to blacken the org. group-contg. layer by oxidizing the precursor simultaneously to form the **metal oxide** layer. A **display** device, contg. the black particles as a **spacer**, is also claimed. The black particles shows good fracture toughness and are useful for **spacer** of a liq. crystal **display** device providing clear **images**

IT Liquid crystals
 (liq. crystal **display** device contg. black particles as

spacers)

IT Epoxy resins, uses
 RL: DEV (Device component use); USES (Uses)
 (sealing compn.; black particles for liq. crystal **display** devices)

IT Glass, oxide
 RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
 (substrate; black particles for liq. crystal **display** devices)

IT Optical imaging devices
 (liq.-crystal, prepn. of black particles for)

IT **1309-37-1P**, Iron oxide (Fe₂O₃), preparation
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (coating layer; black particles for liq. crystal **display** devices)

IT **1344-28-1P**, Alumina, preparation **13463-67-7P**, Titania, preparation
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (coating layer; in prepn. of black particles for liq. crystal **display** devices)

IT **1314-23-4P**, Zirconia, preparation
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (in prepn. of black particles for liq. crystal **display** devices)

IT **555-31-7**, Aluminum isopropoxide **1302-42-7**, Sodium aluminate **1344-09-8**, Sodium silicate **5143-87-3**, Stearic acid, titanium (IV) salt **7360-47-6**, Iron tributoxide **7647-01-0**, Hydrochloric acid, uses **11099-06-2**, Ethyl silicate **12002-26-5**, Methyl silicate **32535-84-5**, Zirconyl ammonium carbonate
 RL: TEM (Technical or engineered material use); USES (Uses)
 (in prepn. of black particles for liq. crystal **display** devices)

IT **64-17-5**, Ethanol, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (org. solvent; in prepn. of black particles for liq. crystal **display** devices)

IT **67-56-1**, Methanol, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (solvent; in prepn. of black particles for liq. crystal **display** devices)

L21 ANSWER 20 OF 30 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1994:304021 HCAPLUS

DN 120:304021

TI Reduction rates of FeO in CaO-SiO₂-Al₂O₃-X slags by Fe-C droplets

AU Murthy, G. G. Krishna; Hasham, A.; Pal, U. B.

CS Dep. Mater. Sci. Eng., Massachusetts Inst. Technol., Cambridge, MA, USA

SO Ironmaking and Steelmaking (1993), 20(3), 191-200

CODEN: IMKSB7; ISSN: 0301-9233

DT Journal

LA English

AB Redn. rates of FeO in CaO-SiO₂-Al₂O₃ slags by Fe-C droplets were investigated exptl. at 1723 K. The expts. primarily consisted of dropping 2 g of Fe-C droplets(s) into a much larger slag bath and measuring the redn. rate by detg. the rate of evolution of CO (g) resulting from the redn. of FeO in the slag by C in the droplet. The effect of adding a small quantity of transition **metal oxide** (TiO₂ or Nb₂O₅) to the slag or bringing the slag surface and the Fe-C droplet in contact with an inert metallic conductor (Mo foil) were also studied.

Flash x-ray **images** were taken periodically to study the droplet/slag interface behavior during the reactions. The reaction stopped when the carbon level in the Fe-C droplet reached 2-3% though thermodyn. calcns. showed that the reaction should proceed to almost 0% C. Anal. of the exptl. results revealed that during the initial redn. period (%C > 2-3), the rate controlling step was likely to be gas film diffusion and transport in the slag phase. While, at lower carbon levels (%C < 2-3), an electrochem. transport **barrier** in the slag phase was the rate controlling step. When the electrochem. potential gradient between the bulk slag and the Fe-C droplet interface decreases at lower carbon levels (%C < 2-3), the electrons do not have sufficient driving force to migrate through the slag phase and consequently this also slows the counter migration of oxygen ions from the slag bulk to the Fe-C droplet interface. This theory is supported by the fact that when the slag and the droplet were brought in contact with an inert metallic conductor (Mo foil) which is much less electronically resistive than the slag, the reaction proceeded to almost 0% C.

IT Kinetics of reduction

(of ferrous oxide by iron-carbon droplets in steelmaking slags)

IT 1305-78-8, Calcium oxide, uses 1313-96-8, Niobium oxide (Nb₂O₅)
1344-28-1, Alumina, uses 7631-86-9, Silica, uses 13463-67-7, Titania,
uses

RL: USES (Uses)

(in slags, redn. rate of ferrous oxide by iron-carbon droplets in
relation to)

IT 1345-25-1, Ferrous oxide, miscellaneous

RL: PRP (Properties)

(redn. rate of, in slags, by iron-carbon droplets)

L21 ANSWER 21 OF 30 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1993:171088 HCAPLUS

DN 118:171088

TI Polymer-coated **pigments** with improved dispersibility and reduced
caking

IN Carmody, Walter J.

PA Dow Corning Corp., USA

SO U.S., 4 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5173520	A	19921222	US 1991-772177	19911007
PRAI	US 1991-772177		19911007		

AB Dispersions of the above **pigments** comprise mixts. of silicone fluids with **pigments** surface-coated by 0.25-2.0% acrylate (co)polymers. Polyacrylate coats provide moisture **barrier** layers on the surface of **pigment** particles, prevent caking, and improve **pigment** dispersibility in nonpolar liqs. Thus, a suspension contg. Me₂CHOH 1049.0, TiO₂ 450.0, ethylene glycol dimethacrylate 0.56, and lauryl methacrylate 0.56 g was stirred at 65-70.degree. for 8 h in the presence of Bz₂O₂ to give a colorant contg. 0.25% coating which showed 100% pass through 20-mesh **screen**, gained 0.000% moisture after 20 days, and provided uniform dispersion in a polydimethylsiloxane in 2.00 min, vs. 99.7, 0.004, and 4.00, resp., for uncoated TiO₂.

IT **Pigments**

(polyacrylate-coated particles of, for reduced caking and improved
dispersibility)

IT Cyclosiloxanes

Siloxanes and Silicones, miscellaneous

RL: TEM (Technical or engineered material use); USES (Uses)
(di-Me, dispersibility of polyacrylate-coated **pigment** particles in)

IT Polymerization
(pptn., radical, of acrylate esters in presence of **pigments**,
for improved particle dispersibility and reduced caking)

IT 541-02-6, Decamethylcyclopentasiloxane 556-67-2,
Octamethylcyclotetrasiloxane
RL: TEM (Technical or engineered material use); USES (Uses)
(dispersibility of **pigments** in, polyacrylate coating of
particle surface for improved)

IT 9011-14-7P, Poly(methyl methacrylate) 25101-32-0P, Tetraethylene glycol
dimethacrylate homopolymer 25135-81-3P 25721-76-0P, Ethylene glycol
dimethacrylate homopolymer 61181-29-1P, Ethylene glycol
dimethacrylate-lauryl methacrylate copolymer
RL: PREP (Preparation)

(prepn. of, by pptn. polymn. in presence of **pigments**, for
reduced particle caking and improved dispersibility)

IT **1309-37-1**, Iron oxide red, uses 3844-45-9 13463-67-7, Titanium
dioxide, uses

RL: TEM (Technical or engineered material use); USES (Uses)
(surface-coated with polyacrylates, for improved dispersibility and
reduced caking)

L21 ANSWER 22 OF 30 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1992:245430 HCAPLUS

DN 116:245430

TI Color oxide-coated **spacer** for liquid crystal **display**

IN Takahashi, Hiroyuki

PA Ricoh Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 3 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04015624	A2	19920121	JP 1990-120399	19900509
PRAI	JP 1990-120399		19900509		

AB The **spacer**, for controlling thickness of a liq. crystal layer
between a transparent electrode and an oriented film, consists of SiO₂
and/or org. polymer spherical fine grains in which .ltoreq.0.1 .mu.m
colored **metal oxide** superfine grains, having grain
size smaller than the spherical grains, are implanted. The **spacer**
showed good stability.

IT Optical imaging devices
(electro-, liq.-crystal, color oxide-coated **spacer**, with good
stability)

IT 1321-74-0D, Divinylbenzene, deriv.

RL: USES (Uses)
(copper oxide-coated, liq. crystal **display** color
spacer)

IT 7631-86-9, Silica, properties

RL: PRP (Properties)
(iron oxide-coated, liq. crystal **display** color **spacer**
)

IT 1332-29-2, Tin oxide

RL: USES (Uses)
(liq. crystal **display** color **spacer** coated with)

IT **1309-37-1**, Iron oxide (Fe₂O₃), properties

RL: PRP (Properties)
(liq. crystal **display** color **spacer** coated with)

L21 ANSWER 23 OF 30 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1992:245429 HCAPLUS
DN 116:245429

TI Black oxide-coated **spacer** for liquid crystal **display**
IN Takahashi, Hiroyuki
PA Ricoh Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF

DT Patent
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04015623	A2	19920121	JP 1990-120398	19900509
PRAI	JP 1990-120398		19900509		

AB The **spacer**, for controlling thickness of a liq. crystal layer between a transparent electrode and an oriented film, consists of SiO₂ and/or org. polymer spherical fine grains in which .ltoreq.0.1 .mu.m black **metal oxide** superfine grains, having grain size smaller than the spherical grains, are implanted. The **spacer** showed good stability.

IT Optical imaging devices
(electro-, liq.-crystal, black oxide-coated **spacer**, with good stability)

IT 1321-74-0D, Divinylbenzene, deriv.
RL: USES (Uses)

(copper oxide-coated, liq. crystal **display** black **spacer**)

IT 7631-86-9, Silica, properties
RL: PRP (Properties)

(iron oxide-coated, liq. crystal **display** black **spacer**)

IT **1317-38-0**, Copper oxide (CuO), properties **1317-61-9**,
Iron oxide (Fe₃O₄), properties
RL: PRP (Properties)

(liq. crystal **display** black **spacer** coated with)

L21 ANSWER 24 OF 30 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1990:449779 HCAPLUS
DN 113:49779

TI Toner **image**-fixing roller using release agent coating
PA Xerox Corp., USA
SO Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF

DT Patent
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 01310379	A2	19891214	JP 1989-50944	19890302
	JP 07076856	B4	19950816		
	US 5017432	A	19910521	US 1989-405392	19890911
PRAI	US 1988-166577		19880310		

AB In a toner **image**-fixing roller to be used in conjunction with a functional group-contg. polymeric release agent, the roller is comprised of a support and an elastomeric toner-fixing surface, the latter surface being a vinylidene fluoride-hexafluoropropylene-C₂F₄ copolymer contg. vinylidene fluoride <40 mol% and incorporating a **metal**

oxide which is inert towards the elastomer but capable of interacting with the above-mentioned functional group-contg. polymeric release agent to form a **barrier** layer between the roller fixing surface and the above toner, the elastomer layer, furthermore, being hardened in the presence of a nucleophilic hardener and in the presence of an inorg. base which effects partial dehydrofluorination of vinylidene fluoride.

IT Electrophotography
(app., rollers, toner-fixing, polymer surface for)
IT 9011-17-0
RL: USES (Uses)
(electrophotog. toner-fixing roller using)
IT 1317-36-8, Lead oxide, uses and miscellaneous **1317-38-0**, Copper oxide (CuO), uses and miscellaneous
RL: USES (Uses)
(electrophotog. toner-fixing roller with elastomer layer contg.)
IT 1478-61-1, Curative 30 127463-89-2, Curative 20
RL: USES (Uses)
(in electrophotog. toner-fixing roller surface layer prepn.)

L21 ANSWER 25 OF 30 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1989:125311 HCAPLUS

DN 110:125311

TI Low-pressure fixable magnetic capsule toners

IN Okuma, Akihiro

PA Matsushita Electric Industrial Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 63110459	A2	19880514	JP 1986-257222	19861029
PRAI	JP 1986-257222		19861029		

AB The title toners have a core material comprising a mixt. of a magnetic powder, a charge-controlling agent, a **pigment**, additives, and a gelling substance inside of a capsule **wall** contg. a charge-controlling agent. The toners can be produced economically. Thus, EPT-500 (magnetite), Bontron No. 7 (charge-controlling agent), C black, and KE-104 (silicone gel) were emulsified in a solvent, and the obtained fine particles were microencapsulated with gelatin contg. Bontron No. 7 by using a gelatin-coacervation method. The toner showed good fixability at pressure of 110 kg/cm² and gave high quality **images**.

IT Rubber, silicone, uses and miscellaneous
RL: TEM (Technical or engineered material use); USES (Uses)
(gel substance, magnetic toner core contg.)

IT Gelatins, uses and miscellaneous
RL: TEM (Technical or engineered material use); USES (Uses)
(magnetic toner contg.)

IT Electrophotography
(developers, toners, magnetic, microcapsules contg. gel substance using, fixable at low pressure)

IT Electrophotographic developers
(toners, magnetic, microcapsules contg. gel substance using, fixable at low pressure)

IT 110-16-7 9003-09-2D, Poly(vinyl methyl ether), polymers with maleic anhydride esters 24938-64-5 26125-61-1

RL: TEM (Technical or engineered material use); USES (Uses)
(capsule cell from, magnetic toner contg.)

IT 8005-02-5, Bontron N 07

RL: MOA (Modifier or additive use); USES (Uses)
 (charge control agent, magnetic toner contg.)
 IT 9002-86-2, Poly(vinyl chloride)
 RL: TEM (Technical or engineered material use); USES (Uses)
 (gel substance, magnetic toner contg.)
 IT 25585-77-7, Acrylic acidEt.acrylate-styrene copolymer
 RL: TEM (Technical or engineered material use); USES (Uses)
 (latex, capsule cell from, magnetic toner contg.)
 IT 1309-38-2, EPT-500, uses and miscellaneous
 RL: TEM (Technical or engineered material use); USES (Uses)
 (magnetic substance, magnetic toner contg.)

L21 ANSWER 26 OF 30 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1989:43791 HCAPLUS

DN 110:43791

TI In-glaze painting for **wall** and floor tiles

IN Huo, Danquan; Pang, Liyu; Liang, Yanfen

PA Shiwan Dongping Ceramics Factory, Peop. Rep. China

SO Faming Zhuangli Shenqing Gongkai Shuomingshu, 6 pp.

CODEN: CNXXEV

DT Patent

LA Chinese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	CN 87100727	A	19880713	CN 1987-100727	19870214
	CN 1018822	B	19921028		
PRAI	CN 1987-100727		19870214		

AB Tile substrates are coated with a thick base-glaze layer, dried, painted, coated with a thin top-glaze layer, and fired to obtain glazed tiles having relief patterns due to the difference of the surface tension and thermal-expansion coeff. among the glazes and the paint. The resp. amt. of top- and base-glaze layer for a 400-cm² tile are preferably 2.4-5 and 15-20 g. The painting is preferably **screen** printed. A typical compn. for the base glaze contains SiO₂ 55.38, Al₂O₃ 6.94, Fe₂O₃ 0.269, CaO 8.22, MgO 7.20, Na₂O + K₂O 3.76, TiO₂ 2.30, ZnO 4.60, Cr₂O₃ 0.23, and ZrO 11.10%. A typical compn. for the top glaze contains SiO₂ 53.26, Al₂O₃ 6.81, Fe₂O₃ 4.21, CaO 8.11, MgO 7.11, Na₂O + K₂O 3.75, ZnO 8.06, Cr₂O₃ 0.47, and ZrO 8.22%; and the paint contains typically feldspar 10.87, ceramic **pigment** 6.5, and additives 82.63%.

IT Glazing

(of tiles, in-glaze painting in, for relief patterning)

IT 1308-38-9, Chromia, uses and miscellaneous 1309-37-1, Iron oxide (Fe₂O₃), uses and miscellaneous 1309-48-4, Magnesium oxide, uses and miscellaneous 1314-13-2, Zinc oxide, uses and miscellaneous 12036-01-0, Zirconium oxide (ZrO) 12136-45-7, Potassium oxide (K₂O), uses and miscellaneous 13463-67-7, Titania, uses and miscellaneous
 RL: USES (Uses)
 (glazes contg., for relief patterning of tiles)

L21 ANSWER 27 OF 30 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1980:417005 HCAPLUS

DN 93:17005

TI Photomasks

IN Fuoto, Masuku

PA Fujitsu Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 55017133	A2	19800206	JP 1978-89359	19780724
PRAI	JP 1978-89359		19780724		
AB	In prepg. photomasks having metal images on glass support, a metal oxide subbing layer is formed between the support and the metal layer. The metal oxide layer act as a barrier layer preventing impurities (such as Na) from transferring from the support into the Cr metal layer. Thus, Cr2O3 was sputtered on a glass plate, subsequently Cr was sputtered on the Cr2O3 layer, and finally Cr2O3 was deposited on the Cr layer. The plate was then photochem. etched to give a photomask having excellent size reproducibility.				
IT	Photomasks (chromium supported by glass as, chromium oxide subbing layer for)				
IT	7440-47-3, uses and miscellaneous RL: USES (Uses) (photomasks, chromium oxide subbing layers for)				
IT	1308-38-9, uses and miscellaneous RL: USES (Uses) (subbing layer of, for chromium photomasks supported by glass)				

L21 ANSWER 28 OF 30 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1978:588961 HCAPLUS

DN 89:188961

TI Support for electrophotographic sensitive plate

IN Endo, Katutoshi; Ohira, Makoto

PA Ricoh Co., Ltd., Japan

SO U.S., 3 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4091145	A	19780523	US 1976-650465	19760119
	JP 51084644	A2	19760724	JP 1975-9961	19750123
	JP 54013979	B4	19790604		
PRAI	JP 1975-9961		19750123		
AB	A support for an electrophotog. plate is prepd. by forming a barrier layer over the entire surface of a conductive plate. The barrier layer contains fine particles of a metal oxide , such as Al oxide, Ti oxide, Cr oxide, Zr oxide, Si oxide, Fe oxide and the like. An electrophotog. plate prepd. by using such a support is superior in durability and half-tone reproducibility. Thus, a flat Al plate was dipped in 5% aq. NaOH having a temp. of 40.degree. for 3 s, washed in H2O, dipped in 3% aq. HNO3 for 20 s, washed in H2O, and dried. The treated Al plate was subjected to buffing by means of an open bias sisal buff with an emulsion-type abrasive comprising kilned alumina attached thereto, thereby fine Al oxide particles were buried in the surface of the Al plate. A 50-.mu. photoconductive amorphous Se layer was deposited on the Al plate, then charged to +600 V, exposed to a W light source through a Kodak Gray Scale, developed in a liq. developer, and the toner image transferred to paper to show a tone grade of 9 vs. 6 for a control in which the buffing process was omitted.				
IT	Oxides, uses and miscellaneous RL: USES (Uses) (metal, barrier layers contg., for conductive supports for electrophotog. plates)				
IT	Photography, electro-, plates (supports, with barrier layers contg. buried fine metal oxide particles)				

IT 1309-37-1, uses and miscellaneous 1344-28-1, uses and
 miscellaneous 11118-57-3 13463-67-7, uses and miscellaneous
 RL: USES (Uses)

(**barrier** layers contg., for conductive supports for
 electrophotog. plates)

IT 7429-90-5, uses and miscellaneous

RL: USES (Uses)

(supports, with **barrier** layers contg. buried fine
metal oxide particles for electrophotog. plates)

L21 ANSWER 29 OF 30 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1968:428733 HCAPLUS

DN 69:28733

TI Silicone release coating transfer paper

IN McDermott, John J.; Clausi, Joseph C.

PA Burroughs Corp.

SO U.S., 4 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3386847	A	19680604	US 1964-404481	19641016
PRAI	US 1964-404481		19641016		
AB	<p>A layer of silicone rubber is applied to paper to prep. a transfer paper. Images from inked papers (carbon paper) are easily pressure-imprinted on the transfer paper. The silicone rubber release coating prevents smudging of the paper, but permits good intensity of transfer with inked papers contg. min. amts. (important in l-time carbon paper) of ink or imaging material. The release layer also acts as a barrier layer, making practical the use of lightwt., porous, inexpensive transfer paper (e.g., 5.5-7.5-lb. kraft paper). Thus, 33.3 parts of a mixt. of poly(dimethylsiloxane) and poly(methylsiloxane) was dissolved in 66.1 parts toluene contg. 0.6 part carboxylic acid organotin salt. The soln. was applied to paper as a release coating. An imaging layer consisted typically of a binder, semisolid plasticizer, and imaging material (e.g., carbon black, magnetic iron oxide pigments). The silicone release layer transfer paper is esp. useful in fanfolded forms, multiple bookkeeping rolls, and magnetic or optical character recognition applications.</p>				
IT	<p>Rubber, silicone (coatings of nonmagnetic and magnetic inks and, on paper, for pressure-sensitive transfers)</p>				
IT	<p>Beeswax (ink (magnetic) from magnetite and stearic acid and, for transfers)</p>				
IT	<p>Coating materials (ink (nonmagnetic and magnetic) and silicone rubber, on paper, for transfers)</p>				
IT	<p>Lanolin RL: USES (Uses) (ink (nonmagnetic) from C.I. Solvent Black 7 and stearic acid and, for transfers)</p>				
IT	<p>Waxes RL: USES (Uses) (ink (nonmagnetic) from carbon black and lanolin and, for transfers)</p>				
IT	<p>Carbon black, uses and miscellaneous RL: USES (Uses) (ink (nonmagnetic) from lanolin and wax and, for transfers)</p>				
IT	<p>Ink (nonmagnetic and magnetic, from carbon black and lanolin and magnetite,</p>				

for transfers)
 IT Transfers
 (papers for, with silicone rubber and nonmagnetic and magnetic ink
 coatings)
 IT 57-11-4, uses and miscellaneous
 RL: USES (Uses)
 (ink (magnetic) from beeswax and magnetite and, for transfers)
 IT 1309-38-2, uses and miscellaneous
 RL: USES (Uses)
 (ink (magnetic) from beeswax and stearic acid and, for transfers)
 IT 504-53-0
 RL: USES (Uses)
 (ink (nonmagnetic) from carbon black and stearic acid and, for
 transfers)
 IT 8005-02-5
 RL: USES (Uses)
 (ink (nonmagnetic) from lanolin and stearic acid and, for transfers)

L21 ANSWER 30 OF 30 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1966:434214 HCAPLUS

DN 65:34214

OREF 65:6360h,6361a-b

TI Oxidation catalyst

PA E. I. du Pont de Nemours & Co.

SO 34 pp.

DT Patent

LA Unavailable

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	BE 669981		19660117	BE	19650922
AB	A catalytic oxidn. app. contains a porous refractory material, with a wall thickness of 0.0075-5.0 mm., contg. at least 30% Al ₂ O ₃ , or Al solid soln., and 1 other oxide. Thus, Al particles (0.01 cm. diam.) are compressed into 7.5 .times. 15 cm. bricks which are then impregnated with 40.degree. Baume Na ₂ SiO ₃ . The bricks are then compressed at 7-21 kg./sq. cm., dried at 180.degree., heated to 600.degree. in 20 hrs., and then heated at 650, 700, and 850.degree. for 5, 5, and 15 hrs., resp. The treated bricks, in which 64% of the Al has been converted to Al ₂ O ₃ , are crushed, sifted through 2.38 .times. 4.76 mm. screens , and heated at 900.degree. for 12 hrs. This catalyst support is then soaked in an aq. soln. contg. 1 mole/l. each of Mn(NO ₃) ₂ and CrO ₃ . After 10 min., the particles are removed, treated with anhyd. NH ₃ for 5 min., and heated at 400.degree. for 2 hrs. When evaluated by the oxidn. of CO, the catalyst has an activity index of >284 compared to a value of 20 for the support alone. Similar supports are prepd. with an Al alloy contg. 3.91 Cu, 1.50 Mn, and 1.50 Ni; an Al alloy contg. 10% Mg, or cylinders of .alpha.-Al ₂ O ₃ .				
IT	Reforming (aluminum oxide-NiO catalysts for)				
IT	Refractories (aluminum- metal oxide , as catalysts, for oxidn. of hydrocarbons)				
IT	Catalysts and Catalysis (in oxidn. of hydrocarbons, in exhaust gases, from Al and metal oxides)				
IT	Oxidation (of hydrocarbons, Al catalysts for)				
IT	Hydrocarbons (oxidn. of, catalysts in, Al- metal oxide as)				
IT	Hydrocarbons				

- (oxidn. of, with Al-**metal oxide** catalysts)
- IT Exhaust gases
(oxidn. or combustion of, Al-**metal oxide** catalysts in)
- IT Air
(pollution of, control of, Al-**metal oxide** catalysts for oxidn. of exhaust gases in)
- IT Hydrocarbons
(reforming (including hydroforming) of, with Ni oxide-Al₂O₃ catalysts)
- IT Sodium molybdate(V), Na₂MoO₄
(catalysts from Al and, for oxidn. of CO, C₂H₄ and C₂H₆ mixts.)
- IT Sodium silicate
(catalysts from Al impregnated with **metal oxides** and, for oxidn. of hydrocarbons)
- IT Manganese chromate(III)
(catalysts from Al, Na₂SiO₃ and, for oxidn. of exhaust gases)
- IT Aluminum alloys, Mg-
Aluminum alloys, copper-Mn-Ni-
Copper alloys, aluminum-Mn-Ni-
Magnesium alloys, aluminum-
Manganese alloy, aluminum-Cu-Ni-
Nickel alloy, aluminum-Cu-Mn-
(catalysts, for oxidn. of hydrocarbons)
- IT **1308-38-9**, Chromium oxide, Cr₂O₃ 1314-06-3, Nickel oxide, Ni₂O₃
1333-82-0, Chromium oxide, CrO₃ 10377-66-9, Manganese nitrate, Mn(NO₃)₂
(catalysts from Al and, for oxidn. of CO, C₂H₄ and C₂H₆ mixts.)
- IT 1314-35-8, Tungsten oxide, WO₃
(catalysts from Al and, for oxidn. of CO, C₂H₆ and C₂H₄ mixts.)
- IT 7429-90-5, Aluminum
(catalysts from **metal oxides** and, for oxidn. of hydrocarbons)
- IT 74-85-1, Ethylene 630-08-0, Carbon monoxide
(oxidn. of, Al-**metal oxide** catalysts in)
- IT 74-84-0, Ethane
(oxidn. of, with Al-**metal oxide** catalysts)
- IT 106-97-8, Butane
(reforming of, with Ni oxide-Al₂O₃ catalysts)

L25 ANSWER 1 OF 29 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2001:441000 HCAPLUS

DN 135:291475

TI Potassic igneous rocks from the vicinity of epithermal gold mineralization, Lihir Island, Papua New Guinea

AU Muller, D.; Franz, L.; Herzig, P. M.; Hunt, S.

CS Institut fur Mineralogie, TU Bergakademie Freiberg, Freiberg, D-09596, Germany

SO Lithos (2001), 57(2-3), 163-186

CODEN: LITHAN; ISSN: 0024-4937

PB Elsevier Science B.V.

DT Journal

LA English

AB Many world-class porphyry copper-gold and epithermal gold ore deposits worldwide are hosted by volatile-rich and oxidized alk. rocks. This study investigates potassic igneous rocks from the vicinity of epithermal gold ore mineralization at Lihir Island, Papua New Guinea. The island consists of five Pliocene-Pleistocene stratovolcanoes, one of which hosts Ladolam, one of the largest epithermal gold ore deposits discovered to date. Petrog., the rocks range from porphyritic trachybasalts, trachyandesites, and latites to rare phonolites and olivine-clinopyroxene cumulates. In some places, these rocks are cut by monzodiorite stocks. According to Al-in-hornblende barometry, the main crystn. of these rocks occurred close to the surface. Titanium-in-hornblende thermometry as well as olivine-spinel geothermometry and oxygen barometry indicate temps. of 787-965.degree.C at elevated oxygen fugacities (fO₂) of 1.4-4.8 log units above that of the FMQ buffer. Although previous studies have suggested high fO₂ of alk. rocks assocd. with copper-gold mineralization based on abundant primary magnetite contents, this is the first direct detn. of the fO₂ of such rocks. High fO₂ of parental melts commonly delays the early crystn. of magmatic sulfides; this is important because metals such as Au and Cu preferentially **partition** into sulfide phases resulting in their depletion in the melt during increasing fractionation. Geochem., the rocks range from primitive to relatively evolved compns., as reflected by their SiO₂ (45.8-55.0 wt.%) and MgO (1.4-15.3 wt.%) contents and variable concns. of mantle-compatible elements (130-328 ppm V, 1-186 ppm Ni). Their high K₂O content (up to 4.7 wt.%), high av. K₂O/Na₂O ratios (0.8) and high av. Ce/Yb ratios (14) are typical of high-K igneous rocks transitional to shoshonites. Although these rocks formed by decompression-melting related to back-arc rifting in the Manus Basin, the high LILE, low LREE and very low HFSE concns. are typical of potassic igneous rocks from oceanic (island) arc settings. The reason for this remarkable compn. is the partial melting of subduction-modified lithospheric mantle, which developed in a stalled subduction zone. Mica phenocrysts in the rocks reveal unusually high halogen concns. Magmatic phlogopites contain high F (up to 5.6 wt.%) and elevated Cl contents (<0.08 wt.%). Hydrothermal biotites from rocks that **display** potassic alteration have low F (<0.08 wt.%), but very high Cl concns. (up to 0.15 wt.%). It is suggested that chloride complexing largely controlled the abundances of Au and Cu in the aq. fluids responsible for the hydrothermal gold ore mineralization at Ladolam.

IT Arc volcanism

(back-arc volcanism; island-arc setting of of K-rich igneous rocks, from the vicinity of epithermal gold ore mineralization at Lihir Island (Papua New Guinea), as indicated by their geochem.)

IT Gold ores

RL: GOC (Geological or astronomical occurrence); PRP (Properties); OCCU (Occurrence)

- (copper-; island-arc setting of of K-rich igneous rocks, from the vicinity of epithermal gold ore mineralization at Lihir Island (Papua New Guinea), as indicated by their geochem.)
- IT Partial melting (magma source)
(decompression melting; island-arc setting of of K-rich igneous rocks, from the vicinity of epithermal gold ore mineralization at Lihir Island (Papua New Guinea), as indicated by their geochem.)
- IT Rare earth metals, occurrence
Trace elements, occurrence
RL: GOC (Geological or astronomical occurrence); GPR (Geological or astronomical process); OCCU (Occurrence); PROC (Process)
(geol. indicator, in magmatic rocks; island-arc setting of of K-rich igneous rocks, from the vicinity of epithermal gold ore mineralization at Lihir Island (Papua New Guinea), as indicated by their geochem.)
- IT Latite
Monzodiorite
Phonolite
Porphyry
Shoshonite
Trachyandesite
Trachybasalt
RL: GOC (Geological or astronomical occurrence); PRP (Properties); OCCU (Occurrence)
(gold ores assocd. with; island-arc setting of of K-rich igneous rocks, from the vicinity of epithermal gold ore mineralization at Lihir Island (Papua New Guinea), as indicated by their geochem.)
- IT Copper ores, occurrence
RL: GOC (Geological or astronomical occurrence); PRP (Properties); OCCU (Occurrence)
(gold-; island-arc setting of of K-rich igneous rocks, from the vicinity of epithermal gold ore mineralization at Lihir Island (Papua New Guinea), as indicated by their geochem.)
- IT Gold ores
RL: GFM (Geological or astronomical formation); GOC (Geological or astronomical occurrence); PRP (Properties); FORM (Formation, nonpreparative); OCCU (Occurrence)
(hydrothermal, epithermal; island-arc setting of of K-rich igneous rocks, from the vicinity of epithermal gold ore mineralization at Lihir Island (Papua New Guinea), as indicated by their geochem.)
- IT Calcic amphiboles
Clinopyroxenes
Mica-group minerals, occurrence
Olivine-group minerals
Spinel-group minerals
RL: GOC (Geological or astronomical occurrence); PRP (Properties); OCCU (Occurrence)
(in igneous rocks; island-arc setting of of K-rich igneous rocks, from the vicinity of epithermal gold ore mineralization at Lihir Island (Papua New Guinea), as indicated by their geochem.)
- IT Fractional crystallization (magma)
Magmatism
Ore-forming hydrothermal fluids
(island-arc setting of of K-rich igneous rocks, from the vicinity of epithermal gold ore mineralization at Lihir Island (Papua New Guinea), as indicated by their geochem.)
- IT Geological temperature
(of igneous rock emplacement; island-arc setting of of K-rich igneous rocks, from the vicinity of epithermal gold ore mineralization at Lihir Island (Papua New Guinea), as indicated by their geochem.)
- IT Copper ores, occurrence
RL: GOC (Geological or astronomical occurrence); PRP (Properties); OCCU

(Occurrence)

(porphyry; island-arc setting of of K-rich igneous rocks, from the vicinity of epithermal gold ore mineralization at Lihir Island (Papua New Guinea), as indicated by their geochem.)

IT Igneous rocks, occurrence

RL: GOC (Geological or astronomical occurrence); PRP (Properties); OCCU (Occurrence)

(potassic; island-arc setting of of K-rich igneous rocks, from the vicinity of epithermal gold ore mineralization at Lihir Island (Papua New Guinea), as indicated by their geochem.)

IT Volcanoes

(stratovolcanoes, Pliocene-Pleistocene; island-arc setting of of K-rich igneous rocks, from the vicinity of epithermal gold ore mineralization at Lihir Island (Papua New Guinea), as indicated by their geochem.)

IT 7429-91-6, Dysprosium, occurrence 7439-91-0, Lanthanum, occurrence
7439-94-3, Lutetium, occurrence 7440-00-8, Neodymium, occurrence
7440-02-0, Nickel, occurrence 7440-03-1, Niobium, occurrence
7440-17-7, Rubidium, occurrence 7440-19-9, Samarium, occurrence
7440-24-6, Strontium, occurrence 7440-25-7, Tantalum, occurrence
7440-27-9, Terbium, occurrence 7440-29-1, Thorium, occurrence
7440-30-4, Thulium, occurrence 7440-39-3, Barium, occurrence
7440-45-1, Cerium, occurrence 7440-48-4, Cobalt, occurrence 7440-50-8, Copper, occurrence 7440-52-0, Erbium, occurrence 7440-53-1, Europium, occurrence 7440-58-6, Hafnium, occurrence 7440-60-0, Holmium, occurrence 7440-61-1, Uranium, occurrence 7440-62-2, Vanadium, occurrence 7440-64-4, Ytterbium, occurrence 7440-65-5, Yttrium, occurrence 7440-66-6, Zinc, occurrence 7440-67-7, Zirconium, occurrence

RL: GOC (Geological or astronomical occurrence); GPR (Geological or astronomical process); OCCU (Occurrence); PROC (Process)

(geol. indicator, in magmatic rocks; island-arc setting of of K-rich igneous rocks, from the vicinity of epithermal gold ore mineralization at Lihir Island (Papua New Guinea), as indicated by their geochem.)

IT 7782-50-5, Chlorine, occurrence

RL: GOC (Geological or astronomical occurrence); PRP (Properties); OCCU (Occurrence)

(in biotites; island-arc setting of of K-rich igneous rocks, from the vicinity of epithermal gold ore mineralization at Lihir Island (Papua New Guinea), as indicated by their geochem.)

IT 1302-27-8, Biotite ((Fe0.4-0.8Mg0.2-0.6)3K(Si3Al)[(OH)0.5-1F0-0.5]2O10)
1309-38-2, Magnetite (Fe3O4), occurrence 12178-42-6, Hornblende

RL: GOC (Geological or astronomical occurrence); PRP (Properties); OCCU (Occurrence)

(in igneous rocks; island-arc setting of of K-rich igneous rocks, from the vicinity of epithermal gold ore mineralization at Lihir Island (Papua New Guinea), as indicated by their geochem.)

IT 61076-94-6, Phlogopite (Mg3K(Si3Al)[(OH)0.5-1F0-0.5]2O10)

RL: GOC (Geological or astronomical occurrence); PRP (Properties); OCCU (Occurrence)

(island-arc setting of of K-rich igneous rocks, from the vicinity of epithermal gold ore mineralization at Lihir Island (Papua New Guinea), as indicated by their geochem.)

RE.CNT 78 THERE ARE 78 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 2 OF 29 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2001:221900 HCAPLUS

DN 134:259280

TI Transfer sheet, and pattern-forming method

IN Kosaka, Yozo; Mizuno, Katsuhiko; Nakamura, Takeshi; Tanaka, Kounosuke; Takeda, Toshihiko

PA Dai Nippon Printing Co., Ltd., Japan
 SO U.S., 52 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 FAN.CNT 6

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	US 6207268	B1	20010327	US 1997-967122	19971112
	JP 10144209	A2	19980529	JP 1996-300412	19961112
	JP 10149766	A2	19980602	JP 1996-306557	19961118
	JP 10177840	A2	19980630	JP 1996-337971	19961218
	JP 10181180	A2	19980707	JP 1996-341333	19961220
	JP 10214561	A2	19980811	JP 1997-18587	19970131
	JP 10233156	A2	19980902	JP 1997-31737	19970217
PRAI	JP 1996-300412	A	19961112		
	JP 1996-304723	A	19961115		
	JP 1996-306557	A	19961118		
	JP 1996-337971	A	19961218		
	JP 1996-341333	A	19961220		
	JP 1997-18587	A	19970131		
	JP 1997-31737	A	19970217		

AB This patent disclosed a transfer sheet and a pattern-forming method suitable for forming high-precision patterns for layers such as electrode layers, dielec. layers and **barrier** layers in the process of producing plasma **display** panels, **image display** devices, thermal heads, integrated circuits, etc., and capable of forming patterns having superior surface smoothness, a uniform thickness and high profile precision in a reduced period of time and in high yields. The transfer sheet has an ink layer over a base film. The ink layer consists essentially of an inorg. component contg. at least a glass frit, and a thermoplastic resin. The ink layer contains from 3 parts to 50 parts by wt. of the thermoplastic resin with respect to 100 parts by wt. of the inorg. component. According to the pattern-forming method, a pattern is transferred onto a substrate by using the transfer sheet, and then firing is carried out, thereby forming a high-precision pattern, e.g. an electrode layer, a dielec. layer, a **barrier** layer, etc.

IT Aminoplasts
 Epoxy resins, uses
 Fluoropolymers, uses
 Phenolic resins, uses
 Polyimides, uses
 Polysiloxanes, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (heat resistant layer of transfer sheet in plasma **display** substrate contg.)

IT Frits
 (ink layer of transfer sheet in plasma **display** substrate contg.)

IT Inks
 (printing, transfer; transfer sheet in plasma **display** substrate)

IT Plastics, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (thermoplastics; thermoplastic resin in ink layer of transfer sheet in plasma **display** substrate)

IT Plasma **display** panels
 (transfer sheet in plasma **display** substrate)

IT 1303-86-2, Boron oxide, uses 1304-76-3, Bismuth oxide, uses 1314-13-2, Zinc oxide, uses 1317-36-8, Lead oxide, uses 7631-86-9, Silica, uses

RL: TEM (Technical or engineered material use); USES (Uses)
 (glass frit in ink layer of transfer sheet in plasma **display** substrate contg.)

IT 9003-08-1, Melamine resin 9004-34-6, Hydroxy cellulose, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (heat resistant layer of transfer sheet in plasma **display** substrate contg.)

IT 1317-38-0, Copper oxide, uses 1344-28-1, Alumina, uses
 9003-29-6, Polybutene 13463-67-7, Titania, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (ink layer of transfer sheet in plasma **display** substrate contg.)

IT 119313-12-1, Irgacure 369
 RL: CAT (Catalyst use); USES (Uses)
 (photoinitiator in ink layer of transfer sheet in plasma **display** substrate)

IT 84-74-2, Dibutyl phthalate 85-68-7, Benzyl butyl phthalate 117-81-7,
 Bis(2-ethylhexyl)phthalate 131-11-3, Dimethyl phthalate 130455-63-9,
 RS 107
 RL: TEM (Technical or engineered material use); USES (Uses)
 (plasticizer in ink layer of transfer sheet in plasma **display** substrate)

IT 9003-49-0, Polybutyl acrylate 9003-63-8, Polybutyl methacrylate
 9004-57-3, Ethyl cellulose 9011-14-7, Polymethyl methacrylate
 25719-51-1, Poly(2-ethylhexyl methacrylate) 28961-43-5, Poly(ethoxylated
 trimethylolpropane triacrylate) 211874-98-5 330858-50-9
 RL: TEM (Technical or engineered material use); USES (Uses)
 (thermoplastic resin in ink layer of transfer sheet in plasma **display** substrate)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 3 OF 29 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2000:863833 HCAPLUS

DN 134:32126

TI Substrates having high reliability for plasma **display** panels

IN Nishioka, Yasuhiko; Sakasegawa, Kiyohiro; Kato, Masashi; Muramoto, Yasuto

PA Kyocera Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000340124	A2	20001208	JP 1999-150973	19990531
PRAI	JP 1999-150973		19990531		

AB The substrates consist of a plate-like insulation substrate and multiple division **walls** formed on the substrate, where the division **walls** are formed from a compn. contg. a glass and 4-8 wt % ceramic fillers of CeO₂, TiO₂, V₂O₅, Fe₂O₃, ZnO and/or MgO.

IT Ceramics

Glass substrates

Plasma **display** panels

(substrates having multiple division **walls** consisting of glass and ceramic fibers for reliability for plasma **display** panels)

IT 1306-38-3, Ceria, uses 1309-37-1, Iron oxide (Fe₂O₃), uses 1309-48-4, Magnesia, uses 1314-13-2, Zinc oxide, uses 1314-62-1, Vanadium oxide (V₂O₅), uses 13463-67-7, Titania, uses
 RL: MOA (Modifier or additive use); USES (Uses)

(ceramic filler contg.; substrates having multiple division **walls** consisting of glass and ceramic fibers for reliability for plasma **display** panels)

IT 1303-86-2, Boron oxide, uses 1317-36-8, Lead oxide (Pbo), uses 7631-86-9, Silica, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (glass contg.; substrates having multiple division **walls** consisting of glass and ceramic fibers for reliability for plasma **display** panels)

L25 ANSWER 4 OF 29 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 2000:204113 HCAPLUS
 DN 132:233727
 TI Magnetic resonance imaging with ferumoxil, a negative superparamagnetic oral contrast agent, in the evaluation of ulcerative colitis
 AU D'Arienzo, Agesilao; Scaglione, Giuseppe; Vicinanza, Giovanni; Manguso, Francesco; Bennato, Raffaele; Belfiore, Giuseppe; Imbriaco, Massimo; Mazzacca, Gabriele
 CS Department of Clinical and Experimental Medicine, Gastroenterology Unit and Department of Biomorphological and Functional Sciences, Faculty of Medicine, Federico II University, Naples, Italy
 SO American Journal of Gastroenterology (2000), 95(3), 720-724
 CODEN: AJGAAR; ISSN: 0002-9270
 PB Elsevier Science Inc.
 DT Journal
 LA English
 AB The introduction of new oral contrast agents that enhance **image** quality has increased the importance of magnetic resonance imaging (MRI) in the management of ulcerative colitis. The aim of our study was to investigate the usefulness of a new neg. superparamagnetic oral contrast (ferumoxil) alone or in assocn. with gadolinium i.v. in the assessment of the disease. Twenty-eight patients with clin. active ulcerative colitis and 10 control subjects entered the study. In each patient a clin., endoscopic, histol., and MRI evaluation was performed. In particular, in 14 patients affected by ulcerative colitis (group A) and in five controls, magnetic resonance **images** were acquired 1 h after the oral administration of 900 mL of ferumoxil, while the remaining 14 patients (group B) and five controls were submitted to double-contrast MRI (ferumoxil and gadolinium). In both groups, **wall** thickness, length of affected bowel segments, and, in group B, also **percent** contrast enhancement were calcd. The comparison of endoscopic and MRI extent of disease was statistically significant. **Wall** thickness and, in group B, also **percent** contrast enhancement were significantly correlated with clin. and endoscopic activities. In each group **wall** thickness was significantly different in the activity phases of the disease. MRI with neg. superparamagnetic oral contrast is comparable to endoscopy in the assessment of ulcerative colitis. The double-contrast imaging does not provide more information than single oral contrast, so we concluded that the latter is preferable in the follow-up of the disease and in patients unable or with a poor compliance to undergo endoscopy.

IT Imaging agents
 (NMR contrast; magnetic resonance imaging with ferumoxil, a neg. superparamagnetic oral contrast agent, in the evaluation of human ulcerative colitis)

IT Intestine, disease
 (ulcerative colitis; magnetic resonance imaging with ferumoxil, a neg. superparamagnetic oral contrast agent, in the evaluation of human ulcerative colitis)

IT 1309-37-1, Lumirem, biological studies 7440-54-2, Gadolinium, biological studies

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(magnetic resonance imaging with ferumoxil, a neg. superparamagnetic oral contrast agent, in the evaluation of human ulcerative colitis)

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 5 OF 29 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1998:123372 HCAPLUS

DN 128:142547

TI Fractal characteristics of filter cake structure

AU Xiaomin, Hu; Qian, Luo

CS Dept. of Resources and Environment, Northeastern University, Shenyang, 110006, Peop. Rep. China

SO Proceedings - World Filtration Congress, 7th, Budapest, May 20-23, 1996 (1996), Volume 2, 921-924 Publisher: Hungarian Chemical Society, Budapest, Hung.

CODEN: 65RHAD

DT Conference

LA English

AB With scanning electron microscope and automatic **image** analyzer, the filter cakes of flocculated and unflocculated hematites were measured. The effect of flocculants on the cake structure and the relation of the cake structure to the particle size were investigated, upon which the fractal characteristics of the filter cake structure were studied from the view of the fractal theory. The fractal dimension value of the pore boundary was measured by slit island method. The smaller the particle size, the higher the fractal dimension value of the cake structure. The fractal dimension value of the flocculated cake is higher than that of the unflocculated cake and the higher the flocculant mol. wt. and addn. level, the higher the fractal dimension value. The fractal dimension of pore boundary is able to indicate well the microscopic structure of the filter cake, which means the higher the fractal dimension value, the rougher the pore **wall** and the more the intraflocular water.

IT Analytical apparatus

Scanning electron microscopes

(detn. of hematite filter cake structure by scanning electron microscope and automatic **image** analyzer)

IT Filter cake

Fractals

(fractal characteristics of filter cake structure)

IT 1317-60-8, Hematite, processes

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)

(detn. of hematite filter cake structure by scanning electron microscope and automatic **image** analyzer)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 6 OF 29 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1996:396043 HCAPLUS

DN 125:71799

TI Two-component electrophotographic developer

IN Kawada, Hideaki; Ishimaru, Seiji; Nagao, Kazuya; Iida, Tomohide; Tamura, Hidekazu; Fujii, Kazuhiko

PA Mita Industrial Co Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 17 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08076470	A2	19960322	JP 1994-210887	19940905
PRAI	JP 1994-210887		19940905		

AB The developer, comprising toner particles and carrier particles, satisfies the conditions that the toner particles comprise a fixing resin contg. a styrene-acrylic copolymer, having 4,000-30,000 mol. wt. peak, 70,000-200,000 wt.-av. mol. wt., and 4-20 acid value, and also contg. an anionic polar group, a C.gto req. 12 alkyl-side chain-having component, and/or a grafted waxy component, and a magnetic powder dispersed in it and the carrier particles comprise magnetic core particles of MOFe₂O₃ (M = Cu, Zn, Fe, Ba, Ni, Mg, Mn, Al and/or Co) coated with a coating layer of a heat-curable resin with .gtoreq. 85% curing ratio. The heat-curable resin may be a (modified) silicone resin, an acrylic resin, a styrene-acrylic resin, a phenolic resin, an urethane resin, a polyester, an epoxy resin, and/or amino resin. The developer shows good charging property and provides an improved **image** with good contrast.

IT Siloxanes and Silicones, uses
 RL: DEV (Device component use); USES (Uses)
 (acrylic modified, carrier coating; two-component electrophotog. developers)

IT Aminoplasts
 Epoxy resins, uses
 Phenolic resins, uses
 Polyesters, uses
 Urethane polymers, uses
 RL: DEV (Device component use); USES (Uses)
 (carrier coating; two-component electrophotog. developers)

IT Carbon black, uses
 RL: DEV (Device component use); USES (Uses)
 (toner compn.; two-component electrophotog. developers)

IT Electrophotographic developers
 (two-component electrophotog. developers)

IT 9003-08-1D, Melamine resin, methylated
 RL: DEV (Device component use); USES (Uses)
 (carrier coating; two-component electrophotog. developers)

IT 176764-34-4P, Acrylic acid-butyl methacrylate-propylene-styrene graft copolymer 176764-35-5P, Acrylic acid-butyl methacrylate-propylene-stearyl methacrylate-styrene graft copolymer
 RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
 (fixing resin component; two-component electrophotog. developers)

IT 7429-90-5, Aluminum, uses 7439-89-6, Iron, uses 7439-95-4, Magnesium, uses 7439-96-5, Manganese, uses 7440-02-0, Nickel, uses 7440-39-3, Barium, uses 7440-48-4, Cobalt, uses 7440-50-8, Copper, uses 7440-66-6, Zinc, uses
 RL: DEV (Device component use); USES (Uses)
 (magnetic core component; two-component electrophotog. developers)

IT 1309-38-2, Magnetite, uses 1317-61-9, Iron oxide (Fe₃O₄), uses
 RL: DEV (Device component use); USES (Uses)
 (magnetic powder; two-component electrophotog. developers)

IT 1344-28-1, Alumina, uses
 RL: DEV (Device component use); USES (Uses)
 (**spacer** grain; two-component electrophotog. developers)

IT 9003-07-0, Polypropylene
 RL: DEV (Device component use); USES (Uses)
 (waxy grafted component; two-component electrophotog. developers)

L25 ANSWER 7 OF 29 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1996:396042 HCAPLUS

DN 125:71798

TI Two-component electrophotographic developer

IN Kawada, Hideaki; Ishimaru, Seihiro; Nagao, Kazuya; Iida, Tomohide; Tamura, Hidekazu; Fujii, Kazuhiko

PA Mita Industrial Co Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08076471	A2	19960322	JP 1994-210888	19940905
PRAI	JP 1994-210888		19940905		

AB The developer, comprising a toner and a carrier, satisfies the conditions that the toner comprises a fixing resin, a magnetic powder dispersed in the resin for 0.1-5 wt. parts (for 100 parts of the resin), and a mold-releasing agent, the fixing resin comprises (A) a copolymer compn. obtained from an anionic polar group-having monomer and a C.gtoeq.12 alkyl-side chain-having monomer and/or (B) a polymeric compn. contg. an anionic polar group-having polymer and a C.gtoeq.12 alkyl-side chain-having polymer, and the carrier comprises a magnetic core of MOFe2O3 (M = Cu, Zn, Fe, Ba, Ni, Mg, Mn, Al, and/or Co) coated with a heat-curable resin with a .gtoreq.85% curing ratio. The heat-curable resin may be an acrylic resin, a styrene-acrylic resin, a (modified) silicone resin, a phenolic resin, an urethane resin, an epoxy resin, a polyester resin, and/or an amino resin. The toner has 5-15 .mu.m av. grain size and **spacer** particles of 0.05-1.0 .mu.m av. grain size, adhered to its surface. The developer shows good charging property and provides an improved **image** with good contrast.

IT Siloxanes and Silicones, uses
 RL: DEV (Device component use); USES (Uses)
 (acrylic modified, carrier coating layer; two-component electrophotog. developers)

IT Aminoplasts
 Epoxy resins, uses
 Phenolic resins, uses
 Polyesters, uses
 Urethane polymers, uses
 RL: DEV (Device component use); USES (Uses)
 (carrier coating layer; two-component electrophotog. developers)

IT Ferrite substances
 RL: DEV (Device component use); USES (Uses)
 (magnetic core particles; two-component electrophotog. developers)

IT Carbon black, uses
 RL: DEV (Device component use); USES (Uses)
 (toner compn.; two-component electrophotog. developers)

IT Electrophotographic developers
 (two-component electrophotog. developers)

IT 9003-08-1D, Melamine resin, methylated
 RL: DEV (Device component use); USES (Uses)
 (carrier coating layer; two-component electrophotog. developers)

IT 176914-81-1P, Acrylic acid-butyl methacrylate-stearyl methacrylate-styrene copolymer
 RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
 (fixing resin; two-component electrophotog. developers)

IT 7429-90-5, Aluminum, uses 7439-89-6, Iron, uses 7439-95-4, Magnesium,

uses 7439-96-5, Manganese, uses 7440-02-0, Nickel, uses 7440-39-3, Barium, uses 7440-48-4, Cobalt, uses 7440-50-8, Copper, uses 7440-66-6, Zinc, uses

RL: DEV (Device component use); USES (Uses)

(magnetic core component; two-component electrophotog. developers)

IT 1309-38-2, Magnetite, uses 1317-61-9, Iron oxide

(Fe₃O₄), uses

RL: DEV (Device component use); USES (Uses)

(magnetic powder; two-component electrophotog. developers)

IT 9003-07-0, Polypropylene

RL: DEV (Device component use); USES (Uses)

(mold-releasing agent; two-component electrophotog. developers) ..

IT 1344-28-1, Alumina, uses

RL: DEV (Device component use); USES (Uses)

(**spacer** grains; two-component electrophotog. developers)

L25 ANSWER 8 OF 29 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1996:385824 HCAPLUS

DN 125:45077

TI Two-component electrophotographic developer

IN Funato, Masatomi; Ishimaru, Seiji; Kubo, Norio; Asano, Terumichi;

Kawada, Hideaki; Hatase, Yoshiteru

PA Mita Industrial Co Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08076494	A2	19960322	JP 1994-212221	19940906
PRAI	JP 1994-212221		19940906		

AB The developer, comprising a toner and a carrier, satisfies the conditions that the toner comprises toner particles contg. a fixing resin contg. a magnetic powder for 0.1-5 wt. parts (for 100 parts of the resin) dispersed in it, the fixing resin comprises an anionic-polar group-having styrene-acrylic resin, satisfying 4,000-30,000 of mol. wt. peak, 70,000-200,000 of wt.-av. mol. wt., and 4-20 of acid value, and the carrier comprises magnetic core particles of MOFe₂O₃ (M = Cu, Zn, Fe, Ba, Ni, Mg, Mn, Al, and/or Co) coated with a coating layer of a resin compn. contg. Me silicone and methylated melamine of .gtoreq.700 wt.-av. mol. wt. The developer, including a carrier coating layer contg. Me silicone resin having .gtoreq.70 % T unit, is also claimed. A methanol extd. soln. of the toner may show no substantial peak at 280-350 nm and no substantial absorbance at 400-700 nm. The toner may be 5-15 .mu.m av. grain size (vol. std.) and have a **spacer** particle of 0.05-1.0 .mu.m av. grain size. The developer shows good charging ability and provides an improved **image** with good contrast.

IT Ferrite substances

RL: TEM (Technical or engineered material use); USES (Uses)

(carrier core; two-component electrophotog. developers)

IT Siloxanes and Silicones, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(methyl-contg., carrier coating; two-component electrophotog. developers)

IT Carbon black, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(toner component; two-component electrophotog. developers)

IT Electrophotographic developers

(carriers, two-component electrophotog. developers)

IT Electrophotographic developers
(toners, two-component electrophotog. developers)

IT 9003-08-1D, Melamine resin, methylated
RL: TEM (Technical or engineered material use); USES (Uses)
(carrier coating; two-component electrophotog. developers)

IT 7429-90-5, Aluminum, uses 7439-89-6, Iron, uses 7439-95-4, Magnesium,
uses 7439-96-5, Manganese, uses 7440-02-0, Nickel, uses 7440-39-3,
Barium, uses 7440-48-4, Cobalt, uses 7440-50-8, Copper, uses
7440-66-6, Zinc, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(ferrite component; two-component electrophotog. developers)

IT 25036-16-2P, Butyl acrylate-methacrylic acid-styrene copolymer
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)
(fixing resin; two-component electrophotog. developers)

IT 1309-38-2, Magnetite, uses 1317-61-9, Iron oxide
(Fe₃O₄), uses
RL: TEM (Technical or engineered material use); USES (Uses)
(magnetic powder; two-component electrophotog. developers)

IT 1344-28-1, Alumina, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**spacer** particle; two-component electrophotog. developers)

L25 ANSWER 9 OF 29 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1996:385823 HCAPLUS

DN 125:45076

TI Two-component electrophotographic developer

IN Funato, Masatomi; Ishimaru, Seijiro; Kubo, Norio; Asano, Terumichi;
Kawada, Hideaki; Hatase, Yoshiteru

PA Mita Industrial Co Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	JP 08076491	A2	19960322	JP 1994-212218	19940906
PRAI	JP 1994-212218		19940906		

AB The developer, comprising a toner and a carrier, satisfies the conditions that the toner comprises toner particles contg. a fixing resin contg. a magnetic powder for 0.1-5 wt. parts (for 100 parts of the resin) dispersed in it, the fixing resin comprises a lower- and a higher-mol. wt. macromols. having anionic-polar groups, resp., where the acid value of the lower macromol. being less than that of the higher macromol., the carrier comprises magnetic core particles of MOFe₂O₃ (M = Cu, Zn, Fe, Ba, Ni, Mg, Mn, Al, and/or Co) coated with a coating layer of a resin compn. contg. Me silicone and methylated melamine of .gtoreq.700 wt.-av. mol. wt. The developer, including a carrier coating layer contg. Me silicone resin having .gtoreq.70 % T unit, is also claimed. A methanol extd. soln. of the toner may show no substantial peak at 280-350 nm and no substantial absorbance at 400-700 nm. The toner may be 5-15 .mu.m av. grain size (vol. std.) and have **spacer** particles of 0.05-1.0 .mu.m av. grain size. The developer shows good charging ability and provides an improved **image** with good contrast.

IT Ferrite substances

RL: TEM (Technical or engineered material use); USES (Uses)
(carrier core; two-component electrophotog. developers)

IT Siloxanes and Silicones, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(methyl-contg., carrier coating; two-component electrophotog. developers)

IT Carbon black, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(toner component; two-component electrophotog. developers)

IT Electrophotographic developers
(carriers, two-component electrophotog. developers)

IT Electrophotographic developers
(toners, two-component electrophotog. developers)

IT 9003-08-1D, Melamine resin, methylated
RL: TEM (Technical or engineered material use); USES (Uses)
(carrier coating; two-component electrophotog. developers)

IT 7429-90-5, Aluminum, uses 7439-89-6, Iron, uses 7439-95-4, Magnesium, uses 7439-96-5, Manganese, uses 7440-02-0, Nickel, uses 7440-39-3, Barium, uses 7440-48-4, Cobalt, uses 7440-50-8, Copper, uses 7440-66-6, Zinc, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(ferrite component; two-component electrophotog. developers)

IT 25036-16-2P, Butyl acrylate-methacrylic acid-styrene copolymer
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(fixing resin; two-component electrophotog. developers)

IT 1309-38-2, Magnetite, uses 1317-61-9, Iron oxide (Fe₃O₄), uses
RL: TEM (Technical or engineered material use); USES (Uses)
(magnetic powder; two-component electrophotog. developers)

IT 1344-28-1, Alumina, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**spacer** particle; two-component electrophotog. developers)

L25 ANSWER 10 OF 29 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1996:363355 HCAPLUS

DN 125:22300

TI Two-component electrophotographic developer

IN Funato, Masatomi; Ishimaru, Seiji; Kubo, Norio; Asano, Terumichi; Kawada, Hideaki; Hatase, Yoshiteru

PA Mita Industrial Co Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08076490	A2	19960322	JP 1994-212217	19940906
PRAI	JP 1994-212217		19940906		

AB The developer, comprising a toner and a carrier, satisfies the conditions that the toner comprises an anionic polar group-contg. fixing resin of 4-20 acid value, a magnetic powder (dispersed in the resin) 0.1-5 wt. parts (for 100 parts of the resin), and a polyester-type resin of 500-10000 wt.-av. mol. wt. 0.5-20 wt. parts (for 100 parts of the resin) and the carrier comprises a magnetic core of MOFe₂O₃ (M = Cu, Zn, Fe, Ba, Ni, Mg, Mn, Al, and/or Co) coated with a coating layer of a resin compn. contg. a Me silicone resin and a methylated melamine resin of .gtoreq.700 wt.-av. mol. wt. . The carrier-coating layer may contain a Me silicone resin contg. .gtoreq.70% T unit. A methanol extd. soln. of the developer may have no substantial peak at 280-350 nm and no substantial absorbance at 400-700 nm. The toner may be 5-15 .mu.m av. grain size (vol. std.) and includes **spacer** particles of 0.05-1.0 .mu.m av. grain size (vol. std.). The developer shows good charging property and provides improved

images with good contrast.

IT Ferrite substances
RL: TEM (Technical or engineered material use); USES (Uses)
(magnetic core particle; two-component electrophotog. developers)

IT Siloxanes and Silicones, preparation
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(methyl-contg., carrier coating; two-component electrophotog. developers)

IT Carbon black, uses
Polyesters, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(toner component; two-component electrophotog. developers)

IT Electrophotographic developers
(two-component electrophotog. developers)

IT 25036-16-2P, Butyl acrylate-methacrylic acid-styrene copolymer
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(carrier coating layer; two-component electrophotog. developers)

IT 9003-08-1D, Melamine resin, methylated
RL: TEM (Technical or engineered material use); USES (Uses)
(carrier coating layer; two-component electrophotog. developers)

IT 7429-90-5, Aluminum, uses 7439-89-6, Iron, uses 7439-95-4, Magnesium, uses 7439-96-5, Manganese, uses 7440-02-0, Nickel, uses 7440-39-3, Barium, uses 7440-48-4, Cobalt, uses 7440-50-8, Copper, uses 7440-66-6, Zinc, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(ferrite component; two-component electrophotog. developers)

IT **1309-38-2**, Magnetite, uses **1317-61-9**, Iron oxide (Fe₃O₄), uses
RL: TEM (Technical or engineered material use); USES (Uses)
(magnetic powder; two-component electrophotog. developers)

L25 ANSWER 11 OF 29 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1996:363354 HCAPLUS

DN 125:22299

TI Two-component electrophotographic developer without charge-controlling agent

IN Funato, Masatomi; Ishimaru, Seiji; Kubo, Norio; Asano, Terumichi; Kawada, Hideaki; Hatase, Yoshiteru

PA Mita Industrial Co Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08076489	A2	19960322	JP 1994-212216	19940906
PRAI	JP 1994-212216		19940906		
AB	<p>The developer comprises a toner and a carrier, satisfying the conditions that the toner comprises an anionic polar group-contg. fixing resin of 4-20 acid value, a magnetic powder 0.1-5 wt. parts (for 100 parts of the resin), and polyethylene of 1000-5000 av. mol. wt. 0.5-5 wt. parts (for 100 parts of the resin) and the carrier comprises a magnetic core of MOFe₂O₃ (M = Cu, Zn, Fe, Ba, Ni, Mg, Mn, Al, and/or Co) coated with a coating layer of a resin compn. contg. a Me silicone resin and a methylated melamine resin of .gtoreq.700 wt . av. mol. wt. The carrier-coating layer may contain a Me silicone resin contg. .gtoreq.70% T unit. A methanol extd. soln. of the developer may have no substantial peak at 280-350 nm and no substantial</p>				

absorbance at 400-700 nm. The toner may be 5-15 .mu.m av. grain size (vol. std.) and includes **spacer** particles of 0.05-1.0 .mu.m av. grain size (vol. std.). The developer shows good charging property and provides improved **images** with good contrast.

IT Ferrite substances
RL: TEM (Technical or engineered material use); USES (Uses)
(magnetic core particle; two-component electrophotog. developers)

IT Siloxanes and Silicones, preparation
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(methyl-contg., carrier coating; two-component electrophotog. developers)

IT Carbon black, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(toner component; two-component electrophotog. developers)

IT Electrophotographic developers
(two-component electrophotog. developers)

IT 25036-16-2P, Butyl acrylate-methacrylic acid-styrene copolymer
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(carrier coating layer; two-component electrophotog. developers)

IT 9003-08-1D, Melamine resin, methylated
RL: TEM (Technical or engineered material use); USES (Uses)
(carrier coating layer; two-component electrophotog. developers)

IT 7429-90-5, Aluminum, uses 7439-89-6, Iron, uses 7439-95-4, Magnesium, uses 7439-96-5, Manganese, uses 7440-02-0, Nickel, uses 7440-39-3, Barium, uses 7440-48-4, Cobalt, uses 7440-50-8, Copper, uses 7440-66-6, Zinc, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(ferrite component; two-component electrophotog. developers)

IT 1309-38-2, Magnetite, uses 1317-61-9, Iron oxide (Fe₃O₄), uses
RL: TEM (Technical or engineered material use); USES (Uses)
(magnetic powder; two-component electrophotog. developers)

IT 9002-88-4, Polyethylene
RL: TEM (Technical or engineered material use); USES (Uses)
(toner component; two-component electrophotog. developers)

L25 ANSWER 12 OF 29 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1996:363353 HCAPLUS

DN 125:22298

TI Two-component electrophotographic developer without charge-controlling agent

IN Funato, Masatomi; Ishimaru, Seijiro; Kubo, Norio; Asano, Terumichi; Kawada, Hideaki; Hatase, Yoshiteru

PA Mita Industrial Co Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08076488	A2	19960322	JP 1994-212215	19940906
PRAI	JP 1994-212215		19940906		

AB The developer, comprising a toner and a carrier, satisfies the conditions that the toner comprises an anionic polar group-contg. fixing resin of 4-20 acid value, a magnetic powder 0.1-5 wt. parts (for 100 parts of the resin), and 0.1-6 parts of a mold-releasing agent contg. polypropylene of .gtoreq.7000 no.-av. mol. wt. and the carrier comprises a magnetic core of MOFe₂O₃ (M = Cu, Zn, Fe, Ba, Ni, Mg, Mn, Al,

and/or Co) coated with a coating layer of a resin compn. contg. a Me silicone resin and a methylated melamine resin of .gtoreq.700 wt .-av. mol. wt. A methanol extd. soln. of the developer may have no substantial peak at 280-350 nm and no substantial absorbance at 400-700 nm. The toner may be 5-15 .mu.m av. grain size (vol. std.) and includes **spacer** particles of 0.05-1.0 .mu.m av. grain size (vol. std.). The developer shows good charging property and provides improved **images** with good contrast.

- IT Ferrite substances
RL: TEM (Technical or engineered material use); USES (Uses)
(magnetic core particle; two-component electrophotog. developers)
- IT Siloxanes and Silicones, preparation
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(methyl-contg., carrier coating; two-component electrophotog. developers)
- IT Carbon black, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(toner component; two-component electrophotog. developers)
- IT Electrophotographic developers
(two-component electrophotog. developers)
- IT 25609-90-9P, Acrylic acid-butyl methacrylate-styrene copolymer
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(carrier coating layer; two-component electrophotog. developers)
- IT 9003-08-1D, Melamine resin, methylated
RL: TEM (Technical or engineered material use); USES (Uses)
(carrier coating layer; two-component electrophotog. developers)
- IT 7429-90-5, Aluminum, uses 7439-89-6, Iron, uses 7439-95-4, Magnesium, uses 7439-96-5, Manganese, uses 7440-02-0, Nickel, uses 7440-39-3, Barium, uses 7440-48-4, Cobalt, uses 7440-50-8, Copper, uses 7440-66-6, Zinc, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(ferrite component; two-component electrophotog. developers)
- IT 1309-38-2, Magnetite, uses 1317-61-9, Iron oxide (Fe₃O₄), uses
RL: TEM (Technical or engineered material use); USES (Uses)
(magnetic powder; two-component electrophotog. developers)
- IT 9003-07-0, Polypropylene
RL: TEM (Technical or engineered material use); USES (Uses)
(mold-releasing agent; two-component electrophotog. developers)

L25 ANSWER 13 OF 29 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1996:363328 HCAPLUS

DN 125:22288

TI Two-component electrophotographic developer

IN Kawada, Hideaki; Funato, Masatomi; Ishimaru, Seijiro; Tamura, Hidekazu; Kono, Nobuaki; Fujii, Kazuhiko

PA Mita Industrial Co Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08076486	A2	19960322	JP 1994-212209	19940906
PRAI	JP 1994-212209		19940906		

AB The developer, comprising a toner and a carrier, satisfies the conditions that the toner comprises a fixing resin contg. 0.1-5 wt. parts (for 100 wt. parts of the resin) of a dispersed magnetic powder,

the fixing resin comprises lower- and higher-mol.-wt. copolymers contg. an anionic polar group-contg. monomer and styrene, where the lower-mol.-wt. copolymer having $\geq 70\%$ styrene and the carrier comprises a magnetic core of MOFe_2O_3 ($\text{M} = \text{Cu, Zn, Fe, Ba, Ni, Mg, Mn, Al, and/or Co}$) coated with a coating layer contg. a heat-curable resin and a thermoplastic resin, filling concaves in the carrier surface and covering 0.1-60 % surface area. The heat-curable resin may be a (modified) silicone resin, an acrylic resin, a styrene-acrylic resin, a phenolic resin, a urethane resin, a polyester, an epoxy resin, and/or an amino resin. The thermoplastic resin may be an acrylic resin, a styrene-acrylic resin, an olefin copolymer, a wax, a low-m.p. polyamide resin, and/or a low-m.p. polyester resin. A methanol extd. soln. of the toner may show no substantial peak at 280-350 nm and no substantial absorbance at 400-700 nm. The toner shows good charging property and provides improved **images** with good contrast.

- IT Siloxanes and Silicones, uses
 RL: DEV (Device component use); USES (Uses)
 (acrylic modified, carrier coating layer; two-component electrophotog. developer)
- IT Aminoplasts
 Epoxy resins, uses
 Phenolic resins, uses
 Polyamides, uses
 Polyesters, uses
 Urethane polymers, uses
 Waxes and Waxy substances
 RL: DEV (Device component use); USES (Uses)
 (carrier coating layer; two-component electrophotog. developer)
- IT Ferrite substances
 RL: DEV (Device component use); USES (Uses)
 (magnetic core grains; two-component electrophotog. developer)
- IT Carbon black, uses
 RL: DEV (Device component use); USES (Uses)
 (toner compn.; two-component electrophotog. developer)
- IT Electrophotographic developers
 (two-component electrophotog. developer)
- IT Electrophotographic developers
 (toners, two-component electrophotog. developer)
- IT 25085-34-1, Acrylic acid-styrene copolymer
 RL: DEV (Device component use); USES (Uses)
 (carrier coating layer; two-component electrophotog. developer)
- IT 7429-90-5, Aluminum, uses 7439-89-6, Iron, uses 7439-95-4, Magnesium, uses 7439-96-5, Manganese, uses 7440-02-0, Nickel, uses 7440-39-3, Barium, uses 7440-48-4, Cobalt, uses 7440-50-8, Copper, uses 7440-66-6, Zinc, uses
 RL: DEV (Device component use); USES (Uses)
 (carrier core component; two-component electrophotog. developer)
- IT 25036-16-2P, Butyl acrylate-methacrylic acid-styrene copolymer
 RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
 (fixing resin; two-component electrophotog. developer)
- IT 1309-38-2, Magnetite, uses
 RL: DEV (Device component use); USES (Uses)
 (magnetic particle; two-component electrophotog. developer)
- IT 1344-28-1, Alumina, uses
 RL: DEV (Device component use); USES (Uses)
 (**spacer** particle; two-component electrophotog. developer)

TI Two-component electrophotographic developer
 IN Yabe, Shigeo; Inoe, Toyotsune; Okae, Toshiaki; Kawatani, Akihiko; Shimizu, Yoshitake; Hirano, Nobuhiro
 PA Mita Industrial Co Ltd, Japan
 SO Jpn. Kokai Tokkyo Koho, 16 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08076478	A2	19960322	JP 1994-212201	19940906
PRAI	JP 1994-212201		19940906		

AB The developer, comprising a toner and a carrier, satisfies the conditions that the toner comprises an anionic polar group-contg. fixing resin of 4-20 acid value, a dispersed magnetic powder 0.1-5 wt. parts (for 100 parts of the resin), and a polyester of 500-10000 wt. -av. mol. wt. 0.5-20 wt. parts (for 100 parts of the fixing resin) and the carrier of 50-150 .mu.m av. grain size (vol. std.) comprises a magnetic powder having .gtoreq.1.times.105 .OMEGA..cntdot.cm resistivity (dispersed in a cationic polar group-contg. thermoplastic resin) 60-90 wt.% (based on the thermoplastic resin). The toner may have a **spacer** of 0.05-1.0 .mu.m av. grain size (vol. std.). The developer shows good charging property to provide **images** with good contrast.

IT Electrophotographic developers
 (two-component electrophotog. developer)

IT 25085-34-1P, Acrylic acid-styrene copolymer
 RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
 (amino-contg., carrier coating; two-component electrophotog. developer)

IT 25036-16-2P, Butyl acrylate-methacrylic acid-styrene copolymer
 RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
 (fixing resin; two-component electrophotog. developer)

IT **1309-38-2**, Magnetite, uses
 RL: DEV (Device component use); USES (Uses)
 (toner compn.; two-component electrophotog. developer)

L25 ANSWER 15 OF 29 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1996:363323 HCAPLUS

DN 125:22283

TI Two-component electrophotographic developer

IN Yabe, Shigeo; Inoe, Toyotsune; Okae, Toshiaki; Kawatani, Akihiko; Shimizu, Yoshitake; Hirano, Nobuhiro

PA Mita Industrial Co Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 16 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08076480	A2	19960322	JP 1994-212203	19940906
PRAI	JP 1994-212203		19940906		

AB The developer, comprising a toner and a carrier, satisfies the conditions that the toner particles comprise a fixing resin of lower- and higher-mol.-wt. copolymers contg. an anionic polar group and styrene .ltoreq.70 % compn. ratio and the carrier particles of 50-150 .mu.m av. grain size (vol. std.) comprise a cationic polar group-contg. thermoplastic resin compn. and a high-resistance magnetic powder having

.gtoreq.1.times.105 .OMEGA..cntdot.cm resistivity 60-90 wt.% dispersed in the resin. The toner particles may have **spacer** particles of 0.05-1.0 .mu.m av. grain size (vol. std.) adhered to the toner surface. The developer shows good charging property and provides an improved **image** with good contrast.

- IT Electrophotographic developers
(two-component electrophotog. developers)
- IT 25085-34-1, Acrylic acid-styrene copolymer
RL: DEV (Device component use); USES (Uses)
(amino-contg., carrier coating; two-component electrophotog. developers)
- IT 100-42-5, Styrene, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(fixing resin component; two-component electrophotog. developers)
- IT 25036-16-2P, Butyl acrylate-methacrylic acid-styrene copolymer
RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
(fixing resin; two-component electrophotog. developers)
- IT 1344-28-1, Alumina, uses
RL: DEV (Device component use); USES (Uses)
(**spacer** particle; two-component electrophotog. developers)
- IT **1309-38-2**, Magnetite, uses
RL: DEV (Device component use); USES (Uses)
(toner compn.; two-component electrophotog. developers)

L25 ANSWER 16 OF 29 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1996:363322 HCAPLUS

DN 125:22282

TI Two-component electrophotographic developer

IN Yabe, Shigeo; Inoe, Toyotsune; Okae, Toshiaki; Kawatani, Akihiko; Shimizu, Yoshitake; Hirano, Nobuhiro

PA Mita Industrial Co Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 16 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08076479	A2	19960322	JP 1994-212202	19940906
PRAI	JP 1994-212202		19940906		

AB The developer, comprising a toner and a carrier, satisfies the conditions that the toner comprises a fixing resin and a magnetic powder (dispersed in the resin) 0.1-5 wt. parts (for 100 parts of the resin), the fixing resin comprises anionic polar group-contg. lower and higher mol.-wt. resin compns., where the lower mol.-wt. resin compn. has a less acid value than that of the higher mol.-wt. resin compn. and the carrier of 50-150 .mu.m av. grain size (vol. std.) comprises a magnetic powder having .gtoreq.1.times.105 .OMEGA..cntdot.cm resistivity (dispersed in a cationic polar group-contg. thermoplastic resin) 60-90 wt. parts (based on the thermoplastic resin). The toner may be 5-15 .mu.m av. grain size (vol. std.) and has a **spacer** of 0.05-1.0 .mu.m av. grain size (vol. std.) adhered to its surface. The developer shows good charging property to provide an improved **image** with good contrast.

- IT Electrophotographic developers
(two-component electrophotog. developer)
- IT 25085-34-1, Acrylic acid-styrene copolymer
RL: DEV (Device component use); USES (Uses)
(amino-contg., carrier coating layer; two-component electrophotog. developer)

IT 25036-16-2P, Butyl acrylate-methacrylic acid-styrene copolymer
 RL: DEV (Device component use); PNU (Preparation, unclassified); PREP
 (Preparation); USES (Uses)
 (fixing resin; two-component electrophotog. developer)

IT 1344-28-1, Alumina, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (spacer particle; two-component electrophotog. developer)

IT 1309-38-2, Magnetite, uses
 RL: DEV (Device component use); USES (Uses)
 (toner compn.; two-component electrophotog. developer)

L25 ANSWER 17 OF 29 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 1996:363320 HCAPLUS
 DN 125:22281
 TI Two-component electrophotographic developer
 IN Yabe, Shigeo; Inoe, Toyotsune; Okae, Toshiaki; Kawatani, Akihiko; Shimizu,
 Yoshitake; Hirano, Nobuhiro
 PA Mita Industrial Co Ltd, Japan
 SO Jpn. Kokai Tokkyo Koho, 16 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08076481	A2	19960322	JP 1994-212204	19940906
PRAI	JP 1994-212204		19940906		

AB The developer, comprising a toner and a carrier, satisfies the conditions that the toner comprises a fixing resin of anionic polar group-contg. lower and higher macromols., where the lower macromols. having a less SP value and a less compn. ratio of the anionic group than those of the higher macromols., and a magnetic powder (dispersed in the fixing resin) 0.1-5 wt. parts (for 100 parts of the resin) and the carrier of 50-150 .mu.m av. grain size (vol. std.) comprises a .gtoreq.1.times.105 .OMEGA..cntdot.cm-resistivity magnetic powder 60-90 wt.% dispersed in a cationic polar group-contg. thermoplastic resin . The developer shows good charging property to provide improved **images** with good contrast.

IT Electrophotographic developers
 (two-component electrophotog. developer)

IT 25085-34-1, Acrylic acid-styrene copolymer
 RL: TEM (Technical or engineered material use); USES (Uses)
 (amino-contg., carrier coating; two-component electrophotog. developer)

IT 25036-16-2P, Butyl acrylate-methacrylic acid-styrene copolymer
 RL: DEV (Device component use); PNU (Preparation, unclassified); PREP
 (Preparation); USES (Uses)
 (fixing resin; two-component electrophotog. developer)

IT 1344-28-1, Alumina, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (spacer particle; two-component electrophotog. developer)

IT 1309-38-2, Magnetite, uses
 RL: DEV (Device component use); USES (Uses)
 (toner component; two-component electrophotog. developer)

L25 ANSWER 18 OF 29 HCAPLUS COPYRIGHT 2003 ACS on STN
 AN 1996:363319 HCAPLUS
 DN 125:22280
 TI Two-component electrophotographic developer
 IN Kawada, Hideaki; Ishimaru, Seiji; Nagao, Kazuya; Iida, Tomohide; Tamura,
 Hidekazu; Fujii, Kazuhiko
 PA Mita Industrial Co Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	JP 08076472	A2	19960322	JP 1994-210889	19940905
PRAI	JP 1994-210889		19940905		

AB The developer, comprising a toner and a carrier, satisfies the conditions that the toner of a 5-15 .mu.m-av. grain size (vol. std.) comprises a fixing resin contg. a dispersed magnetic powder 0.1-5 wt. parts (for 100 parts of the resin) and an anionic polar group, 1st **spacer** particles of 0.05-1.0 .mu.m av. grain size (vol. std.) with 101-105 .OMEGA..cntdot.cm relative resistance and 2nd **spacer** particles of 0.05-1.0 .mu.m with 108-1013 .OMEGA..cntdot.cm relative resistance adhered to the toner surface and the carrier comprises a magnetic core of MOFe2O3 (M = Cu, Zn, Fe, Ba, Ni, Mg, Mn, Al, and/or Co) coated with a coating layer of a heat-curable resin having .gtoreq.85% curing ratio. The heat-curable resin may be a (modified) silicone, an acrylic resin, a styrene-acrylic resin, a phenolic resin, an urethane resin, a polyester, an epoxy resin, and/or an amino resin. The developer shows a good charging property providing an improved **image** with good contrast.

IT Siloxanes and Silicones, uses

RL: DEV (Device component use); USES (Uses)

(acryl modified, carrier coating; two-component electrophotog. developer)

IT Aminoplasts

Epoxy resins, uses

Phenolic resins, uses

Polyesters, uses

Urethane polymers, uses

RL: DEV (Device component use); USES (Uses)

(carrier coating; two-component electrophotog. developer)

IT Ferrite substances

RL: DEV (Device component use); USES (Uses)

(magnetic core particles; two-component electrophotog. developer)

IT Carbon black, uses

RL: DEV (Device component use); USES (Uses)

(toner compn.; two-component electrophotog. developer)

IT Electrophotographic developers

(two-component electrophotog. developer)

IT 25609-90-9, Acrylic acid-butyl methacrylate-styrene copolymer

RL: DEV (Device component use); USES (Uses)

(fixing resin; two-component electrophotog. developer)

IT 7429-90-5, Aluminum, uses 7439-89-6, Iron, uses 7439-95-4, Magnesium, uses 7439-96-5, Manganese, uses 7440-02-0, Nickel, uses 7440-39-3, Barium, uses 7440-48-4, Cobalt, uses 7440-50-8, Copper, uses 7440-66-6, Zinc, uses

RL: DEV (Device component use); USES (Uses)

(magnetic core component; two-component electrophotog. developer)

IT 9003-08-1, Melamine resin

RL: DEV (Device component use); USES (Uses)

(methyated, carrier coating; two-component electrophotog. developer)

IT 1344-28-1, Alumina, uses 13463-67-7, Titania, uses

RL: DEV (Device component use); USES (Uses)

(**spacer** particle; two-component electrophotog. developer)

IT 1309-38-2, Magnetite, uses

RL: DEV (Device component use); USES (Uses)

(toner component; two-component electrophotog. developer)

L25 ANSWER 19 OF 29 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1991:111978 HCAPLUS

DN 114:111978

TI **Barriers** for plasma **display** panels and preparation thereof

IN Nishigaki, Susumu; Otomo, Shozo; Kamimura, Rikya; Tanaka, Kazunari

PA Narumi China Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 02223132	A2	19900905	JP 1989-42790	19890222
	JP 2775109	B2	19980716		
	JP 02165538	A2	19900626	JP 1988-321590	19881219
	JP 02165539	A2	19900626	JP 1988-321591	19881219
	JP 02165540	A2	19900626	JP 1988-321592	19881219
	JP 10326564	A2	19981208	JP 1998-175255	19881219
	JP 3402578	B2	20030506		
	JP 2003208847	A2	20030725	JP 2002-377277	19881219
	US 5209688	A	19930511	US 1991-672765	19910320
	JP 08255563	A2	19961001	JP 1995-306741	19951030
	JP 2835430	B2	19981214		
PRAI	JP 1988-321590	A	19881219		
	JP 1988-321591	A	19881219		
	JP 1988-321592	A	19881219		
	JP 1995-306741	A3	19881219		
	JP 1998-175255	A3	19881219		
	JP 1989-42790	A	19890222		
	US 1989-451335	B3	19891215		

AB The **barriers** have different heights, and are prepd. by (1) repetition of coating of a glass substrate with a slip consisting of a ceramic powder 100 and UV-curable resin 20-100 wt. parts and exposure of the coated surface to UV using a 1st mask for formation of low-height **barriers**, and (2) slip coating on the low-height **barriers** and exposure of the coated surface to UV using a 2nd mask for formation of high-height **barriers**. A slip from a powder mixt. of SiO₂ 15, Al₂O₃ 20, Fe₂O₃ 10, Cr₂O₃ 3, MnO 7, CoO 2, PbO 35, and B₂O₃ 8 100 and LR-R 350 (UV-curable resin) 80 wt parts with n-Bu cellosolve acetate was used, the unexposed portion of the coating was removed by C₂H₃Cl₃, and the coating was fired at 580.degree.. The panel prepd. had an increased discharge space and a decreased area per pixel.

IT Ceramic materials and wares

(**barriers** from, for plasma **display** panels)

IT Optical imaging devices

(plasma **display** panel, ceramic **barriers** for)

IT 1344-28-1, Aluminum oxide (Al₂O₃), uses and miscellaneous 7631-86-9, Silica, uses and miscellaneous

RL: USES (Uses)

(in **barrier** prepn. for plasma **display** panels)

IT 1303-86-2, Boron oxide (B₂O₃), uses and miscellaneous 1307-96-6, Cobalt oxide (CoO), uses and miscellaneous 1308-38-9, Chromium oxide (Cr₂O₃), uses and miscellaneous 1309-37-1, Iron oxide (Fe₂O₃), uses and miscellaneous 1317-36-8, Lead oxide (PbO), uses and miscellaneous 1344-43-0, Manganese oxide (MnO), uses and miscellaneous

RL: USES (Uses)

(in ceramic **barrier** prepn. for plasma **display** panels)

L25 ANSWER 20 OF 29 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1988:640844 HCAPLUS

DN 109:240844

TI Lyotropic liquid-crystal optical devices controlled thermally,
electrically, or magnetically

IN Tabony, James

PA Commissariat a l'Energie Atomique, Fr.

SO Fr. Demande, 29 pp.

CODEN: FRXXBL

DT Patent

LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2606418	A1	19880513	FR 1986-15594	19861107
	FR 2606418	B1	19940211		
	AU 8780480	A1	19880512	AU 1987-80480	19871029
	AU 593196	B2	19900201		
	IL 84347	A1	19910816	IL 1987-84347	19871102
	EP 271375	A1	19880615	EP 1987-402500	19871105
	EP 271375	B1	19920708		
	R: BE, CH, DE, ES, GB, GR, IT, LI, NL				
	ES 2033904	T3	19930401	ES 1987-402500	19871105
	JP 63135923	A2	19880608	JP 1987-280847	19871106
PRAI	FR 1986-15594		19861107		

AB An optical device comprises 2 insulating **walls** with an intercalated lyotropic liq.-crystal film whose light transmission varies as a function of temp. The liq. crystal contains an alc. 5-20, quaternary ammonium halide 0-20, an oil 0-94, and H2O 1-95 **wt. %**; the mass ratio of the quaternary ammonium halide to the alc. is <2. A liq.-crystal compn. contg. tetradecyltrimethylammonium bromide 0.145 g, pentanol 0.165 mL, H2O 2.0 mL, and cyclohexane 0.1 mL was transparent at 20.degree. and opaque at 36.degree..

IT Surfactants
(in lyotropic liq. crystal compns. for optical **display** devices)

IT Alcohols, uses and miscellaneous
RL: USES (Uses)
(lyotropic liq. crystal compns. contg., for optical **display** devices)

IT Optical imaging devices
(electro-, liq.-crystal, lyotropic compns. for)

IT Quaternary ammonium compounds, uses and miscellaneous
RL: USES (Uses)
(halides, lyotropic liq. crystal compns. contg., for optical **display** devices)

IT Liquid crystals
(lyotropic, compns. contg.)

IT Encapsulation
(micro-, in lyotropic liq. crystal compn. prepn.)

IT Emulsions
(micro-, lyotropic liq. crystals, for optical devices)

IT Fatty acids, compounds
RL: USES (Uses)
(salts, lyotropic liq. crystal compns. contg., for optical **display** devices)

IT 71-36-3, Butanol, uses and miscellaneous 71-41-0, Pentanol, uses and miscellaneous 108-88-3, Toluene, uses and miscellaneous 110-82-7, Cyclohexane, uses and miscellaneous 111-27-3, Hexanol, uses and miscellaneous 111-65-9, Octane, uses and miscellaneous 124-18-5,

Decane 143-18-0, Potassium oleate 151-21-3, Sodium dodecylsulfate, uses and miscellaneous 1119-97-7, Tetradecyltrimethylammonium bromide 1309-38-2, Magnetite, uses and miscellaneous
 RL: USES (Uses)
 (lyotropic liq. crystal compns. contg., for optical **display** devices)

L25 ANSWER 21 OF 29 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1985:479439 HCAPLUS

DN 103:79439

TI Pressure-fixable microcapsule toners

PA Canon K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 60035748	A2	19850223	JP 1983-144120	19830806
	JP 04052463	B4	19920821		
PRAI	JP 1983-144120		19830806		

AB The title toners are prepd. by coating cores contg. pressure-fixable components with **walls**, which cover completely or partially the cores, contg. a copolymer of aminoalkyl vinyl ether of the formula $\text{CH}_2\text{:CRO}(\text{CH}_2)_n\text{NR}_1\text{R}_2$ (I) (R = H, C1-5 alkyl; R₁, R₂ = H, C1-20 alkyl; n = 1-5), its deriv., or 1 of their quaternary ammonium salts with .gtoreq.1 monomers contg. other vinyl groups. The microcapsule toners exhibit good, stable charge-controlling properties, pressure fixability, durability, developability, and transferability, and the method preps. high-quality single-component magnetic toners. Thus, cores prepd. from Mitsui Hi-wax 200P, paraffin wax, and magnetite was coated with a 1:1 **wt.** ratio mixt. of I (R = H; R₁, R₂ = Me; n = 2)-styrene copolymer (3:7 mol ratio) and N,N-dimethylaminoethyl methacrylate-styrene copolymer (1:9 mol ratio) to give a microcapsule toner. The toner showed good pressure fixability and durability and gave high-quality **images** with high d.

IT Paraffin waxes and Hydrocarbon waxes, uses and miscellaneous

RL: USES (Uses)

(pressure-fixable toners contg. wax and magnetite and, microencapsulated with aminoalkylvinyl ether copolymer for electrophotog. development)

IT Electrophotography

(developers, toners, pressure-fixable microcapsules contg. waxes and magnetite with aminoalkylvinyl ether copolymer **walls** as)

IT Photography, electro-, developers

(toners, pressure-fixable microcapsules contg. waxes and magnetite with aminoalkylvinyl ether copolymer **walls** as)

IT 97686-27-6

RL: USES (Uses)

(pressure-fixable magnetic toners microencapsulated with vinyl copolymer and, for electrophotog. development)

IT 25034-86-0 26100-53-8 26222-39-9

RL: USES (Uses)

(pressure-fixable magnetic toners microencapsulated with aminoalkyl vinyl ether copolymer and, for electrophotog. development)

IT 97686-26-5 97686-28-7

RL: USES (Uses)

(pressure-fixable magnetic toners microencapsulated with vinyl copolymer and, for electrophotog. development)

IT 9002-88-4

RL: USES (Uses)

(pressure-fixable toners contg. wax, magnetite and, microencapsulated with aminoalkylvinyl ether copolymer for electrophotog. development)

IT 1309-38-2, uses and miscellaneous

RL: USES (Uses)

(pressure-fixable toners contg. waxes and, microencapsulated with aminoalkyl vinyl ether copolymer for electrophotog. development)

L25 ANSWER 22 OF 29 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1985:479430 HCAPLUS

DN 103:79430

TI Pressure-fixable capsule toners

PA Canon K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 60026346	A2	19850209	JP 1983-134165	19830722
	JP 04058019	B4	19920916		
PRAI	JP 1983-134165		19830722		

AB The title toners are composed of a core substance contg. pressure-fixing components and a **wall** substance contg. a cyclized polymer made from a diallylammonium halide compd. of the formula $(CH_2:CHCH_2N+RR_1CH_2CH:CH_2)X^-$ (I) (R, R₁ = H, C₁-20 alkyl, aryl; X = halo) or from I and .gtoreq.1 vinyl monomer. The smooth **wall** substance provides good coatability without pinholes, and the capsule toners exhibit good, stable charging properties, pressure fixability, and durability. Thus, a core substance obtained from Mitsui Hi-wax 200P, Paraffin Wax 155, and magnetite was coated with a 1:1 wt. ratio mixt. of I (R, R₁ = Me; X = Br)-styrene cyclized polymer (3:7 mol ratio) and dimethylaminoethyl methacrylate-styrene copolymer (1:9 mol ratio) to give a capsule toner. The capsule toner showed excellent pressure fixability and durability and gave clear reversal **images** without fog.

IT Paraffin waxes and Hydrocarbon waxes, uses and miscellaneous

RL: USES (Uses)

(pressure-fixable capsule toners contg. diallylammonium halide cyclized polymer **walls** and cores contg. magnetite and, for electrostatog. developers)

IT Electrophotography

(developers, toners, pressure-fixable, capsule, **wall** substance contg. diallylammonium halide cyclized polymer for)

IT Photography, electro-, developers

(toners, pressure-fixable, capsule, **wall** substance contg. diallylammonium halide cyclized polymer for)

IT 9002-88-4

RL: USES (Uses)

(pressure-fixable capsule toners contg. diallylammonium halide cyclized polymer **walls** and cores contg. magnetite and, for electrostatog. developers)

IT 147-14-8 1309-38-2, uses and miscellaneous

RL: USES (Uses)

(pressure-fixable capsule toners contg. diallylammonium halide cyclized polymer **walls** and cores contg. waxes and, for electrostatog. developers)

IT 26222-39-9

RL: USES (Uses)

(pressure-fixable capsule toners contg. **walls** contg.

diallylammonium halide cyclized polymer and, for electrostatog.
developers)

IT 97613-27-9 97613-28-0

RL: USES (Uses)

(pressure-fixable capsule toners contg. **walls** contg., for
electrostatog. developers)

L25 ANSWER 23 OF 29 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1985:414551 HCAPLUS

DN 103:14551

TI Pressure fixable toner capsules

PA Canon K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 60026347	A2	19850209	JP 1983-134166	19830722
	JP 04058020	B4	19920916		
PRAI	JP 1983-134166		19830722		

AB The title toners are composed of a core substance contg. pressure fixing components and a **wall** substance contg. a polymer having aminophenylthio groups of the formula I (R,R1 = H, C1-20 alkyl, aryl) at the end of the principal or side chain of a polymer made from .gtoreq.1 vinyl type monomer or its quaternary ammonium salt. The toners exhibit excellent environmental stability, good charge controlling properties, fixability, and durability, and the method provides high quality magnetic toners for single component type developers. Thus, a core substance obtained from Mitsui Hi-wax 200P, Paraffin Wax 155, and magnetite was coated with a 8:2 **wt.** ratio mixt. of II and dimethylaminoethyl methacrylate-styrene copolymer to give toner capsules. The toner gave clear reversal **images** and showed good developability, transferability, and fixability under conditions at both 10 and 10 and at 35.degree. and 90% relative humidity.

IT Paraffin waxes and Hydrocarbon waxes, uses and miscellaneous

RL: USES (Uses)

(electrostatog. magnetic toner capsules contg., polymer raw material
for)

IT Electrography

Photography, electro-, developers

(magnetic toner capsules for, pressure-fixable, polymeric raw material
for)

IT 9003-53-6 26222-39-9

RL: USES (Uses)

(electrostatog. magnetic toner capsule raw material from)

IT **1309-38-2**, uses and miscellaneous 9002-88-4

RL: USES (Uses)

(electrostatog. magnetic toner capsules contg., polymer raw material
for)

L25 ANSWER 24 OF 29 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1985:123089 HCAPLUS

DN 102:123089

TI Paper for electrostatography using encapsulated toner

IN Mikami, Takeshi; Maekawa, Masakazu

PA Fuji Photo Film Co., Ltd. , Japan

SO Brit. UK Pat. Appl., 6 pp.

CODEN: BAXXDU

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 2140745	A1	19841205	GB 1984-14179	19830604
	GB 2140745	B2	19870528		
	JP 59224849	A2	19841217	JP 1983-99238	19830603
	US 4717638	A	19880105	US 1986-853382	19860416
PRAI	JP 1983-99238		19830603		
	US 1984-616531		19840601		
AB	An electrophotog. encapsulated toner image paper receptor has extremely smooth surface (optically measured surface roughness value R_p .ltoreq. 3.2 .mu.m), which results in improved fixing property and off-setting. Thus, an electrophotog. latent image was developed with encapsulated toner contg. C black, magnetite and diisopropylnaphthalene in a polymer wall prepd. using hexamethylene diisocyanate-hexanetriol (3:1) adduct and gum arabic, transferred to a paper receptor (light-wt. coated paper with wt. of 47.5 g/m2, thickness 53 .mu.m and R_p = 2.mu.m) and fixed at a pressure of 350 kg/cm2 to produce a sharp image .				
IT	Urethane polymers, uses and miscellaneous RL: USES (Uses) (electrostatog. toner encapsulated by, paper receptor for images developed with)				
IT	Photography, electro-, paper (receptor, encapsulated toner image , with improved fixing property and off-setting)				
IT	1309-38-2 , uses and miscellaneous 38640-62-9 RL: USES (Uses) (electrostatog. encapsulated toner contg., image receptor paper for)				
IT	822-06-0D, adducts with hexanetriol 9000-01-5 25323-24-4D, adducts with hexamethylenediazocyanate RL: USES (Uses) (electrostatog. toner encapsulation using, paper receptor for images developed with)				

L25 ANSWER 25 OF 29 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1985:70192 HCAPLUS

DN 102:70192

TI Encapsulated toners for developing electrostatic latent **images**

PA Canon K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 59170855	A2	19840927	JP 1983-44649	19830317
PRAI	JP 1983-44649		19830317		
AB	Title toners consist of (A) core substance, (B) 1st wall , and (C) 2nd wall , where B is composed of epoxysilane coupling agent. The toners show excellent durability and no peeling off of the walls from the core. Thus, Paraffin Wax (Nippon Seiro Co., Ltd.) 66, Mitsui Hi-wax 200P (polyethylene wax; Mitsui Petrochem. Industries, Ltd.) 33, and magnetite 60 parts were melt-mixed at 150.degree. and granulated to prep. a core substance. The core substance 100 g was dispersed in .gamma.-glycidoxypolytrimethoxysilane (2 wt.% dissolved in 90:10 MeOH-H2O soln.) 300 mL and dried to prep. a 1st wall coated on the core. The coated core 40 g was overcoated with				

1:9 dimethylaminoethyl methacrylate-styrene copolymer 2 g to form a 2nd wall. The obtained toner 30 g was mixed with hydrophobic colloidal silica (EK 150 treated with trimethoxysilane; Nippon Silica Industry Co., Ltd.) 0.12 g to obtain a developer, which provided clear images of high d.

- IT Paraffin waxes and Hydrocarbon waxes, uses and miscellaneous
RL: USES (Uses)
(microencapsulation of electrostatog. toner particles contg.)
- IT Photography, electro-, developers
(magnetic, microencapsulated toner particles for)
- IT 7631-86-9, uses and miscellaneous
RL: USES (Uses)
(electrostatog. developer contg. microencapsulated toner particles and hydrophobic colloidal)
- IT 993-07-7
RL: USES (Uses)
(electrostatog. developer contg. microencapsulated toner particles and hydrophobic colloidal silica treated with)
- IT 2530-83-8 3388-04-3 26222-39-9
RL: USES (Uses)
(in microencapsulation of electrostatog. toner particles)
- IT 1309-38-2, uses and miscellaneous 9002-88-4
RL: USES (Uses)
(microencapsulation of electrostatog. toner particles contg.)

L25 ANSWER 26 OF 29 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1984:112248 HCAPLUS

DN 100:112248

TI Toner particles

IN Matsumoto, Tohru; Yamazaki, Masuo

PA Canon K. K. , Japan

SO Brit. UK Pat. Appl., 15 pp.

CODEN: BAXXDU

DT Patent

LA English

FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 2121203	A1	19831214	GB 1983-9319	19830406
	GB 2121203	B2	19851016		
	JP 58173753	A2	19831012	JP 1982-56958	19820406
	JP 58173754	A2	19831012	JP 1982-56959	19820406
	JP 58173755	A2	19831012	JP 1982-56960	19820406
	JP 58216258	A2	19831215	JP 1982-100357	19820610
	JP 58216259	A2	19831215	JP 1982-100361	19820610
	JP 58216736	A2	19831216	JP 1982-100355	19820610
PRAI	JP 1982-56958		19820406		
	JP 1982-56959		19820406		
	JP 1982-56960		19820406		
	JP 1982-100355		19820610		
	JP 1982-100357		19820610		
	JP 1982-100361		19820610		

- AB Prepn. is described of electrostatog. toner particles suitable for prepn. of pressure-fixing toners for electrophotog., electrostatic printing, magnetic recording etc. The method comprises atomization of a toner compn. in molten or dissolved state using a fluid nozzle or a rotary-disk atomizer while applying a high voltage between the atomizer and a confronting wall. The method provides a spherical particles with a narrow size distribution which can be further encapsulated. Thus, a mixt. contg. low mol. wt. polyethylene 100 and C black 5 wt. parts was heated at 150.degree., supplied into a disk atomizer

rotating at 15,000 rpm while applying a static voltage of -90 kV on the counter electrode (the liq. was supplied at 100 mL/min). The obtained particles were completely true sphere and vol. av. diam. was 11.3 .mu. with 93% of the total wt. between 6.0 and 12.3 .mu.. The developer prepd. from an Fe powder 80 and the toner 10 wt. parts was used to develop an **image** on an electrophotog. photoreceptor which was transferred onto a plain paper and pressure fixed to provide a clear **image**.

- IT Epoxy resins, uses and miscellaneous
RL: PREP (Preparation)
(electrophotog. toner particles contg., method for prepn. of)
- IT Carbon black, uses and miscellaneous
RL: PREP (Preparation)
(electrophotog. toner particles contg., method of prepn. of)
- IT Electrography
(toners for, method for prepn. of)
- IT Recording
(elec., toners for, prepn. of)
- IT Photography, electro-, developers
(toners, prepn. of, method for)
- IT 24937-78-8
RL: USES (Uses)
(electrophotog. toner particles contg.)
- IT **1309-38-2**, uses and miscellaneous 9002-88-4 9003-53-6
RL: USES (Uses)
(electrophotog. toner particles contg., method for prepn. of)
- IT 9002-89-5
RL: USES (Uses)
(electrophotog. toner particles prepd. from dispersion contg.)
- IT 56-40-6, uses and miscellaneous 107-21-1, uses and miscellaneous
RL: USES (Uses)
(electrophotog. toner particles prepd. from dispersion contg., method for)
- IT 9011-14-7 25066-97-1 25154-86-3
RL: USES (Uses)
(in encapsulation of electrophotog. toner particles, method for)
- IT 100-42-5, properties
RL: RCT (Reactant); RACT (Reactant or reagent)
(polymn. of, on electrophotog. toner particles, method for)
- IT 97-88-1
RL: USES (Uses)
(polymn. with styrene, on electrophotog. toner particles, method for)

L25 ANSWER 27 OF 29 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1979:447320 HCAPLUS
DN 91:47320
TI Single-component developer for electrophotography
IN Kouchi, Toshihiro; Aizawa, Tatsuo; Takayama, Hiroshi
PA Mita Industrial Co., Ltd., Japan
SO Ger. Offen., 35 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2834309	A1	19790215	DE 1978-2834309	19780804
	DE 2834309	C2	19881229		
	JP 54028142	A2	19790302	JP 1977-93361	19770805
	JP 57051671	B4	19821102		
	US 4265992	A	19810505	US 1978-929411	19780731

AU 7838547	A1	19800207	AU 1978-38547	19780802
AU 522193	B2	19820520		
NL 7808237	A	19790207	NL 1978-8237	19780804
NL 186605	B	19900801		
NL 186605	C	19910102		
CA 1122461	A1	19820427	CA 1978-308803	19780804
GB 2002532	A	19790221	GB 1978-32431	19780807
GB 2002532	B2	19820303		
FR 2399684	A1	19790302	FR 1978-23241	19780807
FR 2399684	B1	19840420		
PRAI JP 1977-93361		19770805		

AB An electrophotog. developer having a high flowability, low elec. resistance, no tendency to produce background fog, and producing fixed **images** with high rubbing resistance is comprised of a dry mixt. of fixable magnetically sensitive particles of 5-50 .mu. with fine (.ltoreq.1 .mu.) particles of 0.001-2 wt. parts/100 wt. parts fixing agent which control the resistance and flowability. The particles consist of (1) molded masses of Fe3O4 or .gamma.-Fe2O3, (2) lamp black, (3) a resin binder of mostly an arom. vinyl or acrylic resin, and (4) a low mol.-wt. olefinic resin, all present in a wt. ratio of (1):(2):(3):(4) of (20-80):(0.5-20):(18-40):(0.5-30). Thus, a mixt. of Dianearl BR-85 acrylic resin (Mitsubishi Rayon) 16, Slec BL-1 butyral resin (Sekisui Kagahu) 13, Sanwax 171P low mol. wt. polyolefin (Sanyo Kasei) 12, Fe3O4 55, and lamp black 4 wt.% was powd., mixed, melted at 150.degree., molded with a 3-wall mill, cooled, and powd. Then, this mixt. 100 wt. parts was mixed with lamp black 0.8 and glass beads 50 wt. parts. The glass beads were sepd. and the mixt. sieved to 5-50 .mu.,. The developer was used in a std. electrophotog. copier and produced sharp, clear, fog-free **images** with no smearing even after 1000 copies were made.

IT Carbon black, uses and miscellaneous
RL: USES (Uses)
(electrophotog. magnetic toner developer contg.)

IT Photography, electro-, developers
(magnetic toners for, with high flowability and low elec. resistance)

IT Rosin
RL: USES (Uses)
(maleic acid-modified, electrophotog. magnetic toner developer contg.)

IT Vinyl acetal polymers
RL: USES (Uses)
(butyrals, electrophotog. magnetic toner developer contg.)

IT **1309-37-1**, uses and miscellaneous **1317-61-9**, uses and miscellaneous 9002-88-4 9003-53-6 9003-55-8 9052-61-3 25068-38-6 25085-34-1 25085-53-4 26099-09-2D, polymers, rosin-modified 69458-52-2 69522-80-1 70563-26-7 70563-41-6 70563-47-2
RL: USES (Uses)
(electrophotog. magnetic toner developer contg.)

L25 ANSWER 28 OF 29 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1967:108744 HCAPLUS

DN 66:108744

TI Mechanism of formation of conversion films on aluminum from inhibited alkaline solution

AU Yamamoto, Katsumune; Baba, Nobuyoshi; Tajima, Sakai

CS City Univ., Tokyo, Japan

SO Annali dell'Universita di Ferrara, Sezione 5: Chimica Pura ed Applicata, Supplemento (1966), 4(2), 777-88, discussion 789

CODEN: AUFSAH; ISSN: 0365-785X

DT Journal

LA English

AB The mechanism of formation of conversion films on Al from inhibited alk.

solns. ($\text{Na}_2\text{CO}_3 + \text{Na}_2\text{CrO}_4$) was investigated employing gas chromatography, x-ray, chem. and phys. methods, oscillo-graphic analysis, and polarization measurements. The film consists of about 3 parts of $\text{Al}(\text{OH})_3$ and 1 part of $\text{Cr}(\text{OH})_3$ by wt. and the growth rate obeyed the parabolic law. During the treatment, the **barrier** layer existing naturally on Al became nil or very thin, enabling the tunneling for electron transfer from metal to soln. and the film growth was obtained by local cell formation: local anode; $\text{Al} \rightarrow \text{Al}^{3+} + 3\text{e}$, local cathode; $2\text{H}^+ + 2\text{e} \rightarrow \text{H}_2$ and $\text{CrO}_4^{2-} + 4\text{H}_2\text{O} + 3\text{e} \rightarrow \text{Cr}(\text{OH})_3 + 5\text{OH}^-$. The thicker films were obtained from the more impure metal. While most of the Al went into soln. some Al was copptd. as $\text{Al}(\text{OH})_3$ together with $\text{Cr}(\text{OH})_3$ formed by the redn. of CrO_4^{2-} and was stable even at a pH of 12. In the course of treatment, the Al was covered with the coppt. of hydroxides, diminishing the exposed surface as well as the reaction rate and the thickness approached a const. value. The inhibiting action of CrO_4^{2-} was initially to suppress the Al dissolution by adsorption (induction period) followed by coverage of Al surface by hydroxides.

IT 13907-45-4

RL: RCT (Reactant); RACT (Reactant or reagent)
(aluminum reaction with disodium carbonate in presence of, mechanism of)

IT 497-19-8, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
(with aluminum in presence of chromate, mechanism of)

IT 7429-90-5, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
(with disodium carbonate (aq.) in presence of chromate inhibitor, mechanism of)

L25 ANSWER 29 OF 29 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1967:13795 HCAPLUS

DN 66:13795

TI Refractory gunning composition

IN Neely, Joseph E.; Martinet, Jacques R.

PA Kaiser Aluminum and Chemical Corp.

SO U.S., 3 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3278320		19661011	US	19620917
AB	Nonacid gunning compn. for refractory furnace linings are prepd. from varying mixts. of chromite, magnesia, an alkali metal tripolyphosphate or tetraalkali metal pyrophosphate bonding agent, a plasticizer agent, and Fe oxide. Thus, a gunning compn. was prepd. from 82.0 wt. % chromite (Masinloc chrome ore, 60.3% passing 100-mesh screen), 13.0 wt. % periclase (97.5% passing 100-mesh screen), $\text{Na}_5\text{P}_3\text{O}_{10}$ 3.0 wt. %, bentonite (passing 100 mesh screen) 1.0 wt. %, and precipitator dust contg. 90% Fe oxide 1.0 wt. %. The mixt. was slurried with 20-30 wt. % water and applied to a open-hearth furnace wall by means of a slurry gun in a 0.125-0.500 in. thick coat. A control compn. utilizing Na silicate bonding agent failed to adhere to the hot refractory wall . Compns utilizing $\text{Na}_4\text{P}_2\text{O}_7 \cdot 10\text{H}_2\text{O}$ are also claimed.				
IT	Polyphosphoric acids				
	RL: USES (Uses) (alkali metal salts, refractories (gunning) contg.)				
IT	Refractories (for gunning)				

IT Bentonite, uses and miscellaneous
RL: USES (Uses)
(refractories (gunning) contg.)

IT Pyrophosphoric acid, alkali metal salts
RL: USES (Uses)
(refractories (gunning) contg.)

IT **1309-37-1**, uses and miscellaneous 7758-29-4
RL: USES (Uses)
(refractories (gunning) contg.)

L17 ANSWER 1 OF 76 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN

AN 2003-067780 [06] WPIX

DNN N2003-052559 DNC C2003-017822

TI Multilayered electronic device for electronic apparatus, i.e. touch panels, includes conductive indium tin oxide film with nonuniform proportion of indium to tin atoms to form indium tin oxide layers with finite thickness.

DC L03 P73 U14 X12 X26

IN MEMARIAN, H; PATEL, H

PA (MEMA-I) MEMARIAN H; (PATE-I) PATEL H; (CPFI-N) CPFILMS INC

CYC 100

PI WO 2002090107 A1 20021114 (200306)* EN 62p

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ
NL OA PT SD SE SL SZ TR TZ UG ZM ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR
KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT
RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW

US 2003035906 A1 20030220 (200316)

ADT WO 2002090107 A1 WO 2002-US8272 20020418; US 2003035906 A1 US 2001-851321
20010509

PRAI US 2001-851321 20010509

AB WO 200290107 A UPAB: 20030124

NOVELTY - A multilayered electronic device comprises at least one transparent electrically conductive film of indium tin oxide. The film has a proportion of indium to tin atoms which is nonuniform throughout the thickness of the film so that the indium and tin atoms are distributed throughout the film thickness to form indium tin oxide layers (2, 3) with finite thickness.

DETAILED DESCRIPTION - A multilayered electronic device comprises a transparent substrate (1) coated with at least one transparent electrically conductive film of indium tin oxide having a proportion of indium to tin atoms which is nonuniform throughout the thickness of the film so that the indium and tin atoms are distributed throughout the film thickness to form indium tin oxide layers. Each layer has a finite thickness where the proportion of indium and tin is uniform throughout the finite thickness. The proportion of indium to tin in at least one of the layers is different from that in another of the layers.

An INDEPENDENT CLAIM is included for fabrication of the electronic device.

USE - Used for an electronic apparatus i.e. liquid crystal displays (for portable systems e.g. pagers, phones, and personal digital assistants), transparent touch panels, pen entry devices, electroluminescent lamps, personal digital assistant and organic light emitting devices (claimed).

ADVANTAGE - The conductive oxide film has excellent electrical conductivity, mechanical durability and high transparency. It also exhibits high visible transmittance, low resistance and high infrared reflectance. It is more durable and possesses greater flexibility. It also has enhanced mechanical characteristics for continuous touch input while maintaining excellent bulk conductivity and high transparency comparable to that of conventional single composition indium tin oxide materials. It possesses greater environmental stability when exposed to high temperature and humidity conditions.

DESCRIPTION OF DRAWING(S) - The figure shows a cross-section of two different indium tin oxide layers on a substrate.

Transparent substrate 1

Indium tin oxide layers 2, 3

Dwg.1/11

L17 ANSWER 2 OF 76 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN

AN 2002-628993 [68] WPIX

DNN N2002-497142 DNC C2002-177683

TI Web coating station, has two applicators, to deliver the coatings as falling curtains, with different coating media and a structured gap between the strike points of each at the moving substrate for the overlaid layers.

DC A82 F06 F09 P42

IN MENDEZ-GALLON, B; UEBERSCHAER, M; UEBERSCHAR, M

PA (VOIJ) VOITH PAPER PATENT GMBH; (MEND-I) MENDEZ-GALLON B; (UEBE-I) UEBERSCHAR M

CYC 28

PI DE 10057729 A1 20020523 (200268)* 7p

EP 1208917 A2 20020529 (200268) DE

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT
RO SE SI TR

JP 2002192047 A 20020710 (200268) 8p

US 2002066404 A1 20020606 (200268)

ADT DE 10057729 A1 DE 2000-10057729 20001122; EP 1208917 A2 EP 2001-124923 20011019; JP 2002192047 A JP 2001-353349 20011119; US 2002066404 A1 US 2001-996304 20011121

PRAI DE 2000-10057729 20001122

AB DE 10057729 A UPAB: 20021022

NOVELTY - The coating station to apply at least two coating layers to a moving paper or cardboard web substrate (U), using a liquid or paste coating medium, has two applicators (16,22) with jets (16a,22a) to give coating curtains (28,30) which fall on to the surface (14a) of the moving web (14). The gap (D) between the application points, where the coating curtains strike the web, is 100-500 mm.

DETAILED DESCRIPTION - The web coating applicator, using two coating curtains, applies the first layer (20) with a coating medium (18) with a lower water retention than the coating medium (24) for the second layer (26). The coating for the first layer has a density at least 10% higher than the coating for the second layer, and the first coating has a higher viscosity than the second coating. The coatings are of a watery solution or dispersion with solid particles of mineral **pigments** or microscopic plastics particles e.g. plastics **pigments** or ink-filled micro-capsules, or starch. The coatings have a solid content of 5-70 wt.%. The viscosity of the coatings, by Brookfield at 100 rpm, is 10-2000 mPas. The first coating is a **barrier** layer, e.g. of a starch solution with a solid content of 2-30 wt.% with a viscosity by Brookfield at 100 rpm of 10-150 mPas, and a density of 0.8-1.1 g/cm³. The medium is applied to give the first layer a thickness of 2-20 ml/m² on the substrate. The second coating layer is a dispersion of micro-capsules, filled with ink, with a capsule **diameter** of 5-12 µm. The second coating medium has a solid content of 20-50 wt.% and a viscosity, by Brookfield at 100 rpm, of 100-400 mPas. The second coating medium is applied with a layer thickness of 5-30 ml/m² on the substrate. At least one of the coating media is applied in ready dosages on to the moving substrate. A unit (42) to generate an underpressure is in the zone (44) between the applicators. At least one guide (32,34,36) is in the falling paths of the coating curtains, to direct the curtains over their whole width for at least a part of their falling path. The coatings fall in a curtain over a height of 40-400 mm. The coatings are applied to the substrate at a rate of 4-100 l/min. for each meter of web width. The web movement speed is up to 3000 m/min. for **graphic** papers, and at least 200 m/min. for cardboard. **Graphic** papers for coating have a paper weight of 30-150 g/m², and cardboard for coating has a weight of 150-1000 g/m².

USE - The curtain coating applicator is for the application of two coating layers on a moving web of paper, cardboard or textile fabrics. It

can be for carbonless copying paper, paper for ink jet printers, siliconized paper, thermopaper, photographic paper sensitive to heat and light, and the like.

ADVANTAGE - The applicator has a simple structure, for an effective curtain application of two coating layers on to a moving web substrate.

DESCRIPTION OF DRAWING(S) - The drawing shows a schematic side view of the web coating application station.

web 14

web surface 14a

applicator 16

curtain delivery jet 16a

first coating medium 18

first coating layer 20

applicator 22

curtain delivery jet 22a

second coating medium 24

second coating layer 26

coating curtains 28,30

coating curtain guides 32,34,36

underpressure unit 42

zone between the applicators 44

gap between the curtain strike points at the web D

moving substrate U

Dwg.1/2

L17 ANSWER 3 OF 76 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN

AN 2002-491540 [53] WPIX

DNC C2002-139642

TI Composite particles used e.g. for pigmenting paint or plastics comprise unagglomerated primary **pigment** particles adhering to colorless carrier particles and separated from one another by a minimum distance.

DC A60 E37 G01 G02 L01 P73

IN BUETJE, K; DUFF, D G; HOHEISEL, W; BUTJE, K; DUFF, D

PA (FARB) BAYER AG; (BUTJ-I) BUTJE K; (DUFF-I) DUFF D; (HOHE-I) HOHEISEL W

CYC 98

PI DE 10049803 A1 20020418 (200253)* 21p

US 2002071948 A1 20020613 (200253)

WO 2002031060 A1 20020418 (200253) DE

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ
NL OA PT SD SE SL SZ TR TZ UG ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR
KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO
RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2001089927 A 20020422 (200254)

US 6565973 B2 20030520 (200336)

EP 1326928 A1 20030716 (200347) DE

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT
RO SE SI TR

ADT DE 10049803 A1 DE 2000-10049803 20001009; US 2002071948 A1 US 2001-972547 20011005; WO 2002031060 A1 WO 2001-EP11127 20010926; AU 2001089927 A AU 2001-89927 20010926; US 6565973 B2 US 2001-972547 20011005; EP 1326928 A1 EP 2001-969777 20010926, WO 2001-EP11127 20010926

FDT AU 2001089927 A Based on WO 200231060; EP 1326928 A1 Based on WO 200231060

PRAI DE 2000-10049803 20001009

AB DE 10049803 A UPAB: 20020820

NOVELTY - Composite particles comprising **pigment** particles

(preferably with a primary particle size of 1-50 nm) adhering to colorless carrier particles (1-200 nm), in which the primary **pigment** particles are not agglomerated and are separated from one another by a minimum distance which is generally one quarter of the particle diameter.

DETAILED DESCRIPTION - Composite particles containing inorganic and organic **pigment** particles with a primary particle size of 1-100 (preferably 1-50) nm (I) adhering to colorless solid carrier particles with a primary particle size of 1-200 nm (II), in which the primary **pigment** particles are essentially not agglomerated with other **pigment** particles and are separated from one another by a certain minimum distance which is generally one quarter of the particle diameter.

INDEPENDENT CLAIMS are also included for:

(1) a composite material containing combinations of particles as above consisting of different types of inorganic and organic **pigment** particles with an average primary particle size of 1-100 nm;

(2) surface coatings and plastics containing these composite materials; and

(3) substrates coated with these surface coatings.

USE - These composite particles and materials are used for transparent coloring or **light absorption** in matrix materials with a refractive index which differs from that of the composite material by less than 0.3 units (claimed). Applications comprise media where high transparency (low opacity) is important, e.g. clearcoats, paints, plastics or coatings of these.

ADVANTAGE - Specially modified, highly-transparent composite particles with absorption in the visible and solar infrared range, in which carrier particles or coating particles act as **spacers** for the **pigment** particles, resulting in electromagnetic decoupling of the latter and minimal light scattering even with a moderate amount of agglomeration.

Dwg.0/19

L17 ANSWER 4 OF 76 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
 AN 2002-291745 [33] WPIX
 DNN N2002-227831 DNC C2002-085590
 TI Electronic/electrical apparatus useful as, e.g., automobile headlights, comprises thermotropic liquid crystalline polymer components and non-conductive filling agent components.
 DC A85 E19 L03 U11 V04 V07 X12 X22 X26
 IN COTTIS, S G
 PA (DUPO) DU PONT DE NEMOURS & CO E I
 CYC 94
 PI WO 2002002717 A2 20020110 (200233)* EN 19p
 RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ
 NL OA PT SD SE SL SZ TR TZ UG ZW
 W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM
 DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC
 LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE
 SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
 AU 2001071837 A 20020114 (200237)
 EP 1299501 A2 20030409 (200325) EN
 R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT
 RO SE SI TR
 KR 2003019953 A 20030307 (200345)
 ADT WO 2002002717 A2 WO 2001-US21267 20010705; AU 2001071837 A AU 2001-71837
 20010705; EP 1299501 A2 EP 2001-950885 20010705, WO 2001-US21267 20010705;
 KR 2003019953 A KR 2003-700102 20030104
 FDT AU 2001071837 A Based on WO 200202717; EP 1299501 A2 Based on WO 200202717
 PRAI US 2000-215814P 20000705; US 2000-215813P 20000705
 AB WO 200202717 A UPAB: 20020524
 NOVELTY - An electronic/electrical apparatus comprises a thermotropic liquid crystalline polymer component and a non-conductive filling agent component.

DETAILED DESCRIPTION - An electronic/electrical apparatus comprises a

component formed from a liquid crystalline polymer composition comprising:

(a) a thermotropic liquid crystalline polymer component which is an aromatic polyester, polyester-amide, poly(ester-imide), and poly(ester-amide-imide); and

(b) non-conductive filling agent component(s) having a longest dimension of less than 4 μ m. It has a comparative tracking index (CTI) of above 220 volts and a flammability rating of V-0 in test UL-94 at a 0.0625 inch thick.

USE - For reflectors and bezels for automobiles (e.g., headlights, rear lights, brake lights, direction indicators, fog lamps and auxiliary lamps); reflectors for strobe lights (e.g., in aircraft, rescue and emergency vehicles, and warning lights of all kinds, e.g., road **barriers**); reflectors for high-intensity lights (e.g., in floodlights for sports stadiums, medical operating theater or surgery); reflectors for halogen lights (e.g., spotlights for interior use in residential, industrial, commercial housing, spotlights for **displays**); general lighting (e.g., searchlights for military, marine, police or personal use); reflectors for optical and photographic use (e.g., in movie projectors, photo flash systems, slide projectors); aesthetic, reflective under-the-hood automotive parts (e.g., manifold covers, rocker covers, valve covers); other aesthetic, reflective automotive parts (e.g., exhaust tailpipe ends, wheel covers); thermal (infrared) reflectors (e.g., automotive use, such as heat shields around brakes, exhaust systems, or industrial use, such as reflecting heat from glass, metal or other furnaces); laser reflectors (e.g., in research and industry, audio and electronics (compact dish players), space technology (satellites); aesthetic, reflective parts that each high temperature (e.g., in space heaters stovetops/overtops, pressing irons, electronic entertainment goods, computer parts, power tools, lit signs with incandescent bulbs; and solar reflectors (e.g., for energy production).

ADVANTAGE - Excellent tracking index and flame-retarding properties are achieved
Dwg.0/0

L17 ANSWER 5 OF 76 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN

AN 2001-406783 [43] WPIX

DNC C2001-123226

TI Corrosion resistant coating useful for metal surfaces e.g. in the bridges comprises a photoinitiator, a corrosion preventing agent and either a blend of acrylate resin or a blend of cationically curable epoxy resin.

DC A18 A28 A82 G02 M14

IN LUNGU, V; MARINO, T; MARTIN, D; MEJIRITSKI, A; NECKERS, D

PA (SPEC-N) SPECTRA GROUP LTD INC

CYC 1

PI US 6211262 B1 20010403 (200143)* 12p

ADT US 6211262 B1 Provisional US 1998-82424P 19980420, US 1999-294492 19990420

PRAI US 1998-82424P 19980420; US 1999-294492 19990420

AB US 6211262 B UPAB: 20010801

NOVELTY - A corrosion resistant coating composition comprises a photoinitiator, a corrosion preventing agent and either a blend of acrylate resin (I) or a blend of cationically curable epoxy resin (II). The corrosion preventing agent is selected from a metal surface passivator, overbased calcium sulfonate/calcium carbonate and/or a **barrier** pigment.

USE - For metal surfaces cured by actinic radiation in civilian and military uses e.g. ship hulls and topside exterior surfaces; bridges and supports; various fuel, potable water, chemical and sewage tanks; and numerous structural and building uses.

ADVANTAGE - It improves film flexibility. The coating is curable by ultraviolet, **visible light** or electron beam. It also affords tack-free cure by exposure to **visible light**.

Radiation cure is environmental friendly and 100% solids essentially zero volatile organic components. The coatings can be applied as a premixed one-part system having a very long pot life. The selected light source achieves very short cure times, which allow for high productivity.
Dwg.0/0

L17 ANSWER 6 OF 76 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 2000-638137 [61] WPIX
DNC C2000-191874
TI Polymer foam useful in e.g. cushion packaging workstation accessories comprises blend of olefin polymer and interpolymer.
DC A18
IN BARRY, R P; CHAUDHARY, B I; TUSIM, M H
PA (DOWC) DOW CHEM CO
CYC 88
PI WO 2000053669 A1 20000914 (200061)* EN 45p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL
OA PT SD SE SL SZ TZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CZ DE DK DM EE ES FI
GB GD GE GH GM HR HU ID IL IN IS JP KE KG KR KZ LC LK LR LS LT LU
LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM
TR TT TZ UA UG US UZ YU ZA ZW
AU 2000035150 A 20000928 (200067)
US 6160029 A 20001212 (200067)
EP 1171514 A1 20020116 (200207) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT
RO SE SI
KR 2002005618 A 20020117 (200250)
JP 2002538276 W 20021112 (200275) 59p
ADT WO 2000053669 A1 WO 2000-US5855 20000307; AU 2000035150 A AU 2000-35150
20000307; US 6160029 A Provisional US 1999-123813P 19990311, Provisional
US 1999-123814P 19990311, Provisional US 1999-126887P 19990330,
Provisional US 1999-126888P 19990330, US 2000-521169 20000308; EP 1171514
A1 EP 2000-913771 20000307, WO 2000-US5855 20000307; KR 2002005618 A KR
2001-711566 20010911; JP 2002538276 W JP 2000-603303 20000307, WO
2000-US5855 20000307
FDT AU 2000035150 A Based on WO 200053669; EP 1171514 A1 Based on WO
200053669; JP 2002538276 W Based on WO 200053669
PRAI US 1999-126888P 19990330; US 1999-123813P 19990311; US 1999-123814P
19990311; US 1999-126887P 19990330; US 2000-521169 20000308
AB WO 200053669 A UPAB: 20020820
NOVELTY - A polymer foam comprises a blend of an olefin polymer and at
least one of an alpha-olefin/vinyl monomer interpolymer and an
alpha-olefin/vinylidene monomer interpolymer.
DETAILED DESCRIPTION - The polymer foam comprises a blend of: (A) at
least one substantially random interpolymer (5 - 60 wt.%) having
a melt index of 0.05 - 1000 g/10 minutes (g/10 minutes) , either a
crystalline melting point or a glass transition temperature of about 80
deg. C or less; and (B) at least one polymer (40 - 95 wt.%) and
monomeric units (80 mol%) derived from monomers selected from ethylene, 3
- 20C aliphatic alpha -olefins optionally containing polar groups. Random
interpolymer comprises: (1) monomeric units (8 - 65, preferably 15 - 65)
mol% derived from (a) at least one vinyl or vinylidene aromatic monomer,
or (b) at least one sterically hindered aliphatic or cycloaliphatic vinyl
or vinylidene monomer, or a combination of at least one aromatic vinyl or
vinylidene monomer and at least one sterically hindered aliphatic or
cycloaliphatic vinyl or vinylidene monomer; and (2) monomeric units (35 -
92, preferably 35 - 85)mole% derived from ethylene and/or 3 - 20C
aliphatic alpha -olefin; and having monomeric units (at least 80) mol%
derived from (1) and (2). The polymer foam has a cross-linked gel content
of at most 10% and a density of at most 250 kilogram per cubic meter

(kg/m³). An INDEPENDENT CLAIM is also included for making the polymer foam comprising (I) converting the blend into a polymer melt; (II) introducing at least one blowing agent (0.2 - 5.0 g-moles/kg) into the polymer melt at an elevated temperature to form a foamable gel; (III) cooling the foamable gel to an optimum temperature; and (IV) extruding the foamable gel from step (III) through a die to a region of low pressure to form a foam.

USE - In cushion packaging (e.g. corner blocks, braces, saddles, pouches, bags, envelopes, overwraps, interleaving, encapsulation) of finished electronic goods such as computers, televisions and kitchen appliances; packaging or protection of explosive materials or devices; material handling (trays, tote boxes, box liners, tote box inserts and dividers, shunt, stuffing, boards, parts **spacers** and parts separators); work station accessories (aprons, table and bench top covers, floor mats, seat cushions); automotive (headliners, impact absorption in bumpers or doors, carpet underlayment, sound insulation); flotation (e.g. life jackets, vests and belts); sports and leisure (e.g. gym mats and bodyboards); thermal insulation such as that used in building and construction); acoustical insulation (e.g. for appliances and building and construction); gaskets, grommets, seals; sound attenuation for printers and typewriters; **display** case insert; missile container paddling; military shell holder; blocking and bracing of various items in transport; preservation and packaging; automotives anti-rattle pads, seals; medical devices, skin contact pads; cushioned pallet; and vibration isolation pad.

ADVANTAGE - The polymer foam is smooth, aesthetically appealing and functionally improved relative to foams prepared solely from an olefin polymer. They have low abrasion applications such as materials handling of automotive parts.

Dwg.0/0

L17 ANSWER 7 OF 76 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
 AN 2000-237822 [20] WPIX
 CR 1999-518531 [43]; 2002-178963 [23]
 DNN N2000-178315 DNC C2000-072479
 TI Glass powders useful in making electronic devices and for dental applications are produced by forming particles by spray pyrolysis technique.
 DC D21 L01 V01 V05
 IN CARUSO, J; HAMPDEN-SMITH, M J; KODAS, T T; LUDVIKSSON, A; POWELL, Q H
 PA (SUPE-N) SUPERIOR MICROPOWDERS LLC; (CARU-I) CARUSO J; (HAMP-I) HAMPDEN-SMITH M J; (KODA-I) KODAS T T; (LUDV-I) LUDVIKSSON A; (POWE-I) POWELL Q H
 CYC 88
 PI WO 2000012437 A1 20000309 (200020)* EN 108p
 RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL
 OA PT SD SE SL SZ UG ZW
 W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES
 FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS
 LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ
 TM TR TT UA UG UZ VN YU ZA ZW
 AU 9961310 A 20000321 (200031)
 US 6360562 B1 20020326 (200226)
 US 2002160685 A1 20021031 (200274)
 ADT WO 2000012437 A1 WO 1999-US19578 19990826; AU 9961310 A AU 1999-61310 19990826; US 6360562 B1 CIP of US 1998-28029 19980224, CIP of US 1998-28628 19980224, CIP of US 1998-30057 19980224, US 1998-141394 19980827; US 2002160685 A1 CIP of US 1998-28029 19980224, CIP of US 1998-28628 19980224, CIP of US 1998-30057 19980224, Div ex US 1998-141394 19980827, US 2001-32298 20011221
 FDT AU 9961310 A Based on WO 200012437; US 2002160685 A1 CIP of US 6338809, Div ex US 6360562

PRAI US 1998-141394 19980827; US 1998-28029 19980224; US 1998-28628
 19980224; US 1998-30057 19980224; US 2001-32298 20011221
 AB WO 200012437 A UPAB: 20021118

NOVELTY - Glass powders produced by forming particles by spray pyrolysis technique have small particle size, narrow size distribution and spherical morphology, and are especially useful in making electronic devices.

DETAILED DESCRIPTION - A glass powder batch comprises complex glass particles which are spherical and have a **wt** average particle size not greater than 10 microns

INDEPENDENT CLAIMS are also included for:

(1) A powder batch comprising complex glass particles having a **wt** average particle size of 0.1-5 microns and at least 80 **wt.%** of the particles being not larger than twice the average particle size;

(2) a method for producing the glass particles, the method comprising:

(a) generating an aerosol of droplets from a liquid comprising at least a first glass precursor;

(b) moving the droplets in a carrier gas; and

(c) pyrolyzing the droplets at a temperature for a time to remove liquid and convert the precursor to glass particles;

(3) a composition of matter comprising:

(i) a liquid vehicle phase; and

(ii) a functional phase dispersed throughout the vehicle phase and comprising glass particles of average particle size not greater than 10 microns and a particle size distribution where at least 80 **wt.%** are not larger than twice the average particle size;

(4) a thick-film paste composition comprising:

(a) a binder phase;

(b) an organic vehicle phase; and

(c) a functional phase comprising a complex dielectric glass composition in the form of dispersed particles which are spherical and have a **wt** average particle size of 0.1-10 microns;

(5) a method of making a **plasma display** panel comprising a **barrier ribs** disposed between electrodes, the method comprising depositing a complex glass powder on a substrate in a predetermined pattern, the powder having an average particle size of not greater than 5 microns and a particle size distribution in which at least 80 **wt.%** are not larger than twice the average particle size;

(6) a glass powder batch comprising barium aluminosilicate glass particles which are spherical and have a **wt** average particle size not greater than 5 microns; and

(7) a dental composition adapted for use as a filling material comprising aluminosilicate glass particles and a resin, the particles being as recited in additional claim (6).

USE - The glass powders can be used in resistor and/or thermistor applications, as **spacers** for glass face-plates in **display** applications, as **barrier ribs** in flat panel **displays**, such as **plasma display**

panel, in high temperature /high pressure lubrication, such as metal stamping, as sealants in glass, in dental applications, such as crown and filling material and to deliver drugs or radiation into the body.

ADVANTAGE - The flexible production method allows production of glass powders with controlled powder characteristics and complex glass compositions can be accommodated which are difficult or impossible to produce using existing methods. The powders can be produced in large quantities on a continuous basis.

DESCRIPTION OF DRAWING(S) - The figure provides a side view in cross section of one embodiment of aerosol generator of the invention, which includes 49 transducers in a 7 x 7 array.

Dwg.2/43

L17 ANSWER 8 OF 76 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN

AN 2000-029588 [03] WPIX

DNN N2000-022612 DNC C2000-007790

TI Lamination structure of photocathode in electron tube - has **barrier** layer made of alkali metal, its oxide or its fluoride formed on exposed surface of electron emission layer.

DC L03 V05

PA (HAMM) HAMAMATSU PHOTONICS KK

CYC 1

PI JP 11297191 A 19991029 (200003)* 10p

ADT JP 11297191 A JP 1998-101364 19980413

PRAI JP 1998-101364 19980413

AB JP 11297191 A UPAB: 20000522

NOVELTY - A pattern of InAs_x3P_{1-x}3 contact layer (5) is formed on electron emission layer (4), where **barrier** layer (8) made of alkali metal, its oxide or its fluoride is formed on exposed surface of electron emission layer. An electrode (6) is formed contact layer, and an electrode (7) is formed under the substrate.

DETAILED DESCRIPTION - An InAs_x2P_{1-x}2 buffer layer (2) with 'x' lying between 0 to 1, an In_x1Ga_{1-x}1As **light absorption** layer (3) with 'x' between 0 to 0.53, an InAs_x3P_{1-x}3 electron emission layer (4) with a 'x' between 0 to 1 are sequentially provided on InP substrate (1).

USE - For photocathode of electron tube.

ADVANTAGE - The photocathode has favorable sensitivity in infrared region also in room temperature, hence detecting light of infrared region effectively.

DESCRIPTION OF DRAWING(S) - The figure shows the schematic sectional view of photocathode. (1) InP substrate; (2) Buffer layer; (3) **Light absorption** layer; (4) Electron emission layer; (5)

Contact layer; (6,7) Electrodes; (8) **Barrier** layer.

Dwg.1/12

L17 ANSWER 9 OF 76 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN

AN 1999-170516 [15] WPIX

DNN N1999-124539 DNC C1999-050152

TI Black matrix resin composition for colour filter of LCD device - includes black paste in which **pigments** are dispersed such that thickness of resin is larger than particle **diameter** of **pigment** by a specified amount.

DC A85 L03 P81 P85 U14

PA (TORA) TORAY IND INC

CYC 1

PI JP 11023836 A 19990129 (199915)* 9p

ADT JP 11023836 A JP 1997-179446 19970704

PRAI JP 1997-179446 19970704

AB JP 11023836 A UPAB: 19990416

NOVELTY - The black matrix resin composition includes a black paste in which a **pigment** of 1 wt.% or more is dispersed. The thickness of the resin layer is 0.8-1.2 times the **diameter** of particles.

USE - For colour filter of LCD device.

ADVANTAGE - Suppresses reduction in **display** quality accompanied by fluctuation in gap using cylindrical **spacer** in black matrix resin.

Dwg.0/0

L17 ANSWER 10 OF 76 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN

AN 1998-568666 [48] WPIX

DNC C1998-170962

TI Compositions useful for formation of metal oxide(s), useful in chemical

vapour deposition, sol gel, spin coating and spray coating processes - comprises mixture of metal beta-di ketonate complexes, for depositing aluminium, zirconium or zinc oxide(s) having high purity, high electrical resistivity and high transparency to light.

DC E12 L01 L02 L03 M13 U11

IN GORDON, R G

PA (HARD) UNIV HARVARD; (HARD) HARVARD COLLEGE

CYC 22

PI WO 9846617 A1 19981022 (199848)* EN 49p

RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

W: CA JP KR

US 5980983 A 19991109 (199954)

US 6258157 B1 20010710 (200141)

ADT WO 9846617 A1 WO 1998-US7829 19980417; US 5980983 A Provisional US 1997-43279P 19970417, US 1998-62591 19980417; US 6258157 B1 Provisional US 1997-43279P 19970417, Div ex US 1998-62591 19980417, US 1999-392845 19990909

FDT US 6258157 B1 Div ex US 5980983

PRAI US 1997-43279P 19970417; US 1998-62591 19980417; US 1999-392845 19990909

AB WO 9846617 A UPAB: 19981210

Compositions useful in the formation of metal oxides, comprise a mixture of metal beta -di-ketonates containing at least 1 metal and at least 2 beta -diketonate ligands bound to the metal.

Also claimed is a process for forming a metal-containing film.

USE - The compositions are useful, e.g. for chemical vapour deposition (CVD). The composition can be used in a process for depositing aluminium, zirconium or zinc oxides having high purity, high electrical resistivity and high transparency to light, for depositing barium ferrites having useful magnetic properties, barium titanate having good ferroelectric properties, strontium bismuth tantalate films having good ferroelectric properties, barium-strontium titanate coatings having a high dielectric constant and a high electrical resistance, and mixtures of the **oxides of iron, cobalt and chromium** having low transparency to light.

ADVANTAGE - The compositions are liquid at 20 deg. C and highly soluble in organic solvents (claimed) and are easily vaporised without decomposition, do not leave a non-volatile residue, and allow deposition of materials containing several metals by a chemical vapor deposition in which all the reactants may be mixed homogeneously before delivery to a heated substrate. The compositions are homogeneous, stable and non-hazardous, being not pyrophoric, and CVD processes are not disrupted by leaks of air into the deposition region. Metal oxides obtained using the compositions have high purity. Aluminium oxide film obtained using the composition showed an absorption of **visible light** by the film of < 0.1% and the was also found to be a good **barrier** to the diffusion of most materials, including sodium ions and water.

Dwg.0/0

L17 ANSWER 11 OF 76 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN

AN 1997-328557 [30] WPIX

DNN N1997-272432 DNC C1997-105663

TI Resin composition used e.g. as resistor pattern - containing ethylenically unsaturated polymer, diluent, polymerisation initiator, **metal (oxide)** and/or glass.

DC A14 A85 G06 L03 V04 V05 X12

PA (NIPK) NIPPON KAYAKU KK

CYC 1

PI JP 09132692 A 19970520 (199730)* 4p

ADT JP 09132692 A JP 1995-314888 19951109

PRAI JP 1995-314888 19951109

AB JP 09132692 A UPAB: 19970813

A resin composition contains (A) polymer which is prepared by polymerising 30 wt.% or more of (a) ethylenic unsaturated monomer of formula $\text{CH}_2=\text{C}(\text{R}_1)-\text{C}(=\text{O})-\text{O}-(\text{C}_2\text{H}_4\text{O})_n-\text{R}_2$ (1) and/or glycerol mono(meth)acrylate with 70 wt.% or less of (b) copolymerising ethylenic unsaturated monomer, (B) diluent, (C) a photopolymerisation initiator and (D) metal powder, **metal oxide** and/or glass, (where $\text{R}_1=\text{H}$ or CH_3 ; $\text{R}_2=\text{H}$ or 1-5C alkyl; and $n=1-10$).

USE - The resin composition is suitable for a resistor pattern, a conductor pattern, a fluorescent pattern or a **barrier** pattern, for a **plasma display**, an electronic parts, etc.

ADVANTAGE - The resin composition can be developed with water to give a pattern of good accuracy and has small residue of organic material after sintering even at low temperature and good adhesion.
Dwg.0/0

L17 ANSWER 12 OF 76 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN

AN 1997-149810 [14] WPIX

DNC C1997-048010

TI **Pigment** dispersion type colouring fine particles for clinical diagnosis, etc., - obtd. by polymerising compsn. contg. **pigments** dispersed in polymerisable monomers, e.g., styrene or butadiene.

DC A18 A97 B04 J04 L03

PA (SEKI-N) SEKISUI FINE CHEM CO LTD

CYC 1

PI JP 09025309 A 19970128 (199714)* 5p

ADT JP 09025309 A JP 1995-173341 19950710

PRAI JP 1995-173341 19950710

AB JP 09025309 A UPAB: 19970407

Pigment dispersion type colouring fine particles are prepd. by polymerising a colouring compsn. which contains **pigments** dispersed in polymerisable monomers and contains 0.5-50 wt.% **pigment** and up to 500 ppm metal.

Pref., the polymerising monomers are, e.g., styrene, methyl acrylate, butadiene, ethylene, vinyl acetate or maleic anhydride. The monomers may be used with crosslinking cpds., e.g., ethyleneglycol dimethacrylate, N,N-divinylaniline or divinylether in an amt. of 0.005-100 wt.%. The **pigments** are organic **pigments** and inorganic

pigments. The suspension polymerisation is carried out with a dispersing agent, e.g., PVA, methyl cellulose or calcium sulphate and a polymerisation initiator, e.g., benzoyl peroxide (BP), methyl ethyl ketone peroxide or 2,2'-azobisisobutyronitrile in an amt. of 0.01-20 (pref. 0.1-10) wt.%.

In an example, 60g tetramethylolmethane triacrylate, 20g divinylbenzene and 20g acrylonitrile were mixed and to it was added 10g aniline black having metal content of 750 ppm. The mixture was homogeneously dispersed for 48 hrs. The obtd. coloured compsn. was mixed with 2.0g BP and stirred with 850g aq. soln. of 3 wt.% of PVA and homogenised to give suspension contg. fine particles of 3-10 micron **dia.** The suspension was polymerised in N₂ at 85 deg.C for 7 hrs., and then at 90 deg.C for 3 hrs. The obtd. polymerisation reaction soln. was filtered to give **pigment**-dispersed coloured fine particles. The particles were washed with water and dried to give coloured fine particles, 107g. The particles had particle **dia.** of 3-10 micron and average particle **dia.** of 6.7 micron and contained 68 ppm metals.

USE/ADVANTAGE - The colouring particles are useful for marking material, standard particles, artificial carrier for clinical diagnosis and **spacer** for a liquid crystal **display** element.
Dwg.0/0

L17 ANSWER 13 OF 76 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN

AN 1995-078042 [11] WPIX

DNN N1995-061677 DNC C1995-035105

TI Coloured polymer fine particles for LCDs - comprise dispersing **pigments** in a polymer mfd. from monomers contg. 3 ethylenic unsatd. contg. cpds., 2 ethylenic unsatd. contg. cpds. and (meth)acrylonitrile.

DC A14 A85 L03 P81 U14

PA (SEKI-N) SEKISUI FINE CHEM CO LTD

CYC 1

PI JP 07002913 A 19950106 (199511)* 9p

JP 2888738 B2 19990510 (199924) 8p

ADT JP 07002913 A JP 1993-220867 19930906; JP 2888738 B2 JP 1993-220867 19930906

FDT JP 2888738 B2 Previous Publ. JP 07002913

PRAI JP 1993-92769 19930420

AB JP 07002913 A UPAB: 19950322

Coloured polymer fine particles have the structure where **pigments** are dispersed homogeneously in polymer fine particles (B) prepd. by polymerising: (a) 100 pts. (wt.) of monomers comprising 100-60 wt.% of at least three ethylenic unsatd. gp.-contg. cpds. and 0-40 wt.% of two ethylenic unsatd. gp.-contg. cpds.; and (b) 5-50 pts. of (meth)acrylonitrile.

Coloured polymer articles are produced by mixing the above described amts. of components homogeneously, suspending the mixts. in an aq. medium in the fine granular form and polymerising the monomers. **Pigments** are used in amts. of 1-50 (3-30) wt.% of the total of polymer (B). The average particle **dias.** of suspended particles are controlled to 0.1-300 millimicrons.

USE/ADVANTAGE - The polymer fine particles are used as mark materials, carriers for diagnosis reagents, **spacers** for crystalline liq. **display** elements (claimed). They have thick colours, good mechanical strength and solvent resistance.

In an example, 85.5 g of tetramethylolmethane triacrylate, 28.5 g of divinylbenzene and 36.0 g of acrylonitrile were mixed. 14.5 g of aniline black were dispersed homogeneously in the monomer mixt. over 48 hrs. 2.0 g of benzoyl peroxide were mixed homogeneously in the monomer mixt. The mixt. was poured into 850 g of PVA aq. soln. (concn. 3 wt.%), stirred and suspended with a homogeniser in the form of fine particle having a particle size of 3-10 millimicrons.

The suspension was polymerised at 85 deg.C for 7 hrs. and then at 90 deg.C for 3 hrs. and cooled. The coloured polymer fine particle formed was filtered out, water washed and dried.

Dwg.0/1

L17 ANSWER 14 OF 76 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN

AN 1994-234668 [28] WPIX

DNN N1994-185466 DNC C1994-106791

TI **Plasma display** panel with fluorescent film contg.

inert particles - is coated with luminescent cpds. thereby reducing costs, the core esp; comprising barium sulphate.

DC L03 V05

IN BRUNO, S A; SWANSON, D K

PA (DUPO) DU PONT DE NEMOURS & CO E I

CYC 46

PI WO 9414920 A1 19940707 (199428)* 50p

RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE

W: AU BB BG BR BY CA CZ FI HU JP KP KR KZ LK LV MG MN MW NO NZ PL RO

RU SD SK UA UZ VN

AU 9457360 A 19940719 (199439)

US 5382452 A 19950117 (199509) 19p

EP 674688 A1 19951004 (199544) EN
 R: DE FR NL
 US 5518808 A 19960521 (199626) 24p
 JP 08504871 W 19960528 (199646) 59p
 US 5643674 A 19970701 (199732) 24p
 HU 72017 T 19960328 (199741)
 EP 674688 B1 19990331 (199917) EN

R: DE FR NL
 DE 69324263 E 19990506 (199924)
 TW 385329 A 20000321 (200053)

ADT WO 9414920 A1 WO 1993-US11701 19931208; AU 9457360 A AU 1994-57360
 19931208; US 5382452 A Cont of US 1992-995647 19921218, US 1994-202867
 19940225; EP 674688 A1 WO 1993-US11701 19931208, EP 1994-903403 19931208;
 US 5518808 A CIP of US 1992-995647 19921218, CIP of US 1993-67402
 19930601, US 1993-148734 19931105; JP 08504871 W WO 1993-US11701 19931208,
 JP 1994-515175 19931208; US 5643674 A CIP of US 1992-995647 19921218, US
 1993-67402 19930601; HU 72017 T WO 1993-US11701 19931208, HU 1995-1766
 19931208; EP 674688 B1 WO 1993-US11701 19931208, EP 1994-903403 19931208;
 DE 69324263 E DE 1993-624263 19931208, WO 1993-US11701 19931208, EP
 1994-903403 19931208; TW 385329 A TW 1993-110013 19931127

FDT AU 9457360 A Based on WO 9414920; EP 674688 A1 Based on WO 9414920; JP
 08504871 W Based on WO 9414920; HU 72017 T Based on WO 9414920; EP 674688
 B1 Based on WO 9414920; DE 69324263 E Based on EP 674688, Based on WO
 9414920

PRAI US 1992-995647 19921218; US 1993-67402 19930601; US 1993-148734
 19931105

AB WO 9414920 A UPAB: 19940831

A flat, **plasma display** panel includes a fluorescent
 film which comprises particles having an inert core of 0.5-20 micron
dia. and at least one luminescent coating making up 2-30
wt.% of the compsn. Also claimed is a paste of the above powder
 and an organic vehicle.

The core is pref. at least one of alkaline earth sulphates and
 phosphates, metal silicates, mixed **metal oxides** and
 alkaline earth fluorides, and is at least one of calcium oxide, carbonate,
 fluoride or sulphate, Al₂O₃, MgO and is esp. BaSO₄; at least a portion of
 the core has a **barrier** coating.

The luminescent coating pref is 5-20 **wt.%** of the compsn.
 and the average core **dia.** is 1.0-10 micron; 90 **wt.%** of
 the particles have a **dia.** of 0.1 to 10.0 D (where D is the
 average **dia.**).

The coating is pref at least one of Y₂O₃:Eu, Y₂O₂S:Eu, YVO₄:Eu,
 Zn₂SiO₄:Mn, SrB₄O₇:Eu, BaMg₂Al₁₆O₂₇:Eu, CeO_{0.65}TbO_{0.35}:MgAl₁₁O₁₉, ZnS:Cu,
 ZnS:Ag, MgWO₄, barium titanium phosphate, Zn and Eu activated alkaline
 earth ortho and pyrophosphates, and Sb and/or Mn activated calcium
 halophosphates, (La,Ce,Tb)(PO₄)₃, and is Y₂O₃:Eu for the **display**
 panel.

ADVANTAGE - Expensive luminescent cpds. are applied to an inert core
 to reduce cost.
 Dwg.1/13

L17 ANSWER 15 OF 76 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN

AN 1993-102305 [13] WPIX

DNC C1993-045110

TI Highly crosslinked polymer particles prepn. - from crosslinking vinyl
 monomers in organic solvent in the presence of dispersion stabiliser and
 radical polymerisation initiator.

DC A18 B04 D16 D21 E19 F01 G02 G05

IN EL-AASSER, M S; HATTORI, M; SUDOL, D; SUDOL, E D

PA (JAPS) JAPAN SYNTHETIC RUBBER CO LTD

CYC 5

PI EP 534057 A1 19930331 (199313)* EN 15p
 R: DE FR GB
 US 5216096 A 19930601 (199323) 8p
 JP 05178912 A 19930720 (199333) 9p
 EP 534057 B1 19970416 (199720) EN 17p
 R: DE FR GB

DE 69219046 E 19970522 (199726)

ADT EP 534057 A1 EP 1992-108986 19920527; US 5216096 A US 1991-764444
 19910924; JP 05178912 A JP 1992-138852 19920529; EP 534057 B1 EP
 1992-108986 19920527; DE 69219046 E DE 1992-619046 19920527, EP
 1992-108986 19920527

FDT DE 69219046 E Based on EP 534057

PRAI US 1991-764444 19910924

AB EP 534057 A UPAB: 19990813

The prepn. comprises (a) dispersing polymerisable vinyl monomer in a solvent, the polymerisable vinyl monomer having a solubility in water of not more than 30 wt.% and comprising at least 20 wt.% of crosslinking vinyl monomer, and the solvent comprising at least one organic cpd.; and (b) polymerising the vinyl monomer in the presence of a dispersion stabiliser and a radical polymerisation initiator to produce a polymer which is insoluble in the solvent.

Pref. 500 pts. wt. solvent are used per 100 pts. wt. polymerisable monomer. Pref. the polymerisation is carried out in the presence of a co-stabilisation agent. Pref. the polymerising is carried out by using crosslinked polymer particles or a latex produced by emulsion polymn. as seed particles.

The crosslinking vinyl monomer is selected from cpds. having two or more polymerisable double bonds in the molecule and polyvalent acrylate cpds. and is pref. divinylbenzene, ethylene glycol dimethacrylate, and trimethylolpropane trimethacrylate. The organic cpd. is selected from alcohols, hydrocarbons, ethers, acetals, ketones, esters, acids, and S- or N-contg. organic cpds.

USE/ADVANTAGE - As a plastic material, particles for blending fibres, a carrier for chromatography, a standard sample for microscopic examination, a model sample for the measurement of dust, a carrier for medical inspection of living bodies, an enzyme immobilisation carrier, a powder ink, a **spacer** for microcapsule protection in pressure sensitive copying papers, a **pigment** for paint, a powdery lubricant, a sensitive layer improver, a **spacer** for LC cells, a cosmetic **pigment**, and a **pigment** for various plastics. The process is simple and highly crosslinked polymer particles having uniform particle size are obt'd.

Dwg.0/2

L17 ANSWER 16 OF 76 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN

AN 1990-000009 [01] WPIX

DNN N1990-000057 DNC C1990-000032

TI Non-blocking thermally laminable colour-proofing sheets - have heat-bondable adhesive layer of acrylic polymer contg. narrow size distribution polymer beads with mean **dia.** more than layer thickness.

DC A89 G06 P83 P84

IN AUBRIDGE, D R; HELLER, M B; SACHI, L W; WALLBRIDGE, D R

PA (MINN) MINNESOTA MINING & MFG CO

CYC 3

PI AU 8931796 A 19891102 (199001)* 20p

US 4885225 A 19891205 (199006) 7p

CA 1319557 C 19930629 (199332)

ADT AU 8931796 A AU 1989-31796 19890329; US 4885225 A US 1988-187829 19880429;

CA 1319557 C CA 1989-595522 19890403

PRAI US 1988-187829 19880429

AB AU 8931796 A UPAB: 19930928
 Presensitised colour-proofing sheets comprise a carrier sheet (CS) having a release surface, in clinging engagement with which, but not adhesively bonded thereto, is a continuous colour coating (CL) of pigmented organophilic hydrophobic water-insoluble resinous polymer which is softenable or partially dissolvable in a developing solvent (S). A light-sensitive diazo resin (DR), soluble in S, is either incorporated in CL, forming a single layer, or forms a separate contiguous layer over it. Over it is bonded a continuous, water-insoluble, transparent, colourless **barrier** layer (BL), insoluble in S; and over the BL is a thermally-laminable adhesive layer (AL). (The construction is thus CS/CL+DR/BL/AL). On exposure of the sheet to light, the DR becomes insoluble, firmly bonding CL to BL in the light-struck areas whilst the CL+DR remains removable from BL in unexposed areas. AL comprises a layer of acrylic (co)polymer (I) contg. 0.05-2 (pref. 0.1-0.6) **wt%** narrow size distribution particulate organic polymer beads (II) having mean **dia.** 1.1-3 (pref. 1.3-2.3) times the thickness of AL. (I) is laminable at 100-150 deg C at 0.29 kg/sq. cm. in 10 secs; non-tacky at room temp.; will not discolour or alter the reflectance optical density by as much as 0.05 units on exposure to the 350-450 nm UV radiation required to develop an **image** from the DR; and contains no ingredient capable of migrating through the BL and densensitising the DR, discolouring the **pigment**, or distorting the optical properties of the other layers.

USE/ADVANTAGE - The sheets are employed in negative acting surprint colour proofing systems in which laminable proofs use thermal adhesives in the assembly of the individual colour separations to form a single sheet proof (see US4656114).

L17 ANSWER 17 OF 76 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
 AN 1989-258307 [36] WPIX
 DNC C1989-114754
 TI New 2,3 di thio succinic acid derivs. - are chelated with metal ions e.g. radionuclides for medical diagnosis.
 DC B04 B05 K08
 IN SUNDREHAGE, E
 PA (SUND-I) SUNDREHAGEN E
 CYC 1
 PI GB 2214507 A 19890906 (198936)* 13p
 ADT GB 2214507 A GB 1988-1096 19880119
 PRAI GB 1988-1096 19880119
 AB GB 2214507 A UPAB: 19930923
 2,3-Dithiosuccinic acid cpds. of formula (I) are new: R1, R4=OH, an oxysalt, ester, amine, amide, NHNH2 or a polypeptide or a protein; R2, R3=1-6C aliphatic moiety contg. 0-2 heteroatoms.
 Also new are (i) the cpd. bound to a metal or **metal oxide** ions esp. para magnetic or ferromagnetic nuclides and (ii) the cyclic, symmetric or mixed asymmetric anhydrides of (I). More specifically R2, R3= a 1-4C amide or a 1-4C carboxylic acid; and R1 or R4= on immunoglobulin or its specific binding fragment USE/ADVANTAGE - (I) formly chelate the **metal (oxide)** ions, thus **images** of high quality are obtd. and physiological and patho-physiological measurements may be made with high signal to background ratio. (I) are esp. used for magnetic resonance imaging of (I) with low molecule **wt.** residues for R1 and R4 complexed with **metal (oxide)** ions have high clearance rate from **plasma** and are suited for studies of kidney function and of the blood brain **barrier**.. (I) complexes with high molecular **wt.** residues for R1 and R4 have much lower clearance rate from **plasma** and are suitable for vascular and perfusion studies. (I) complexes with R1 or R4=hormones, immunoglobulins or peptides can be use

to target antigens, receptors or other specific structures of cells or tissues. Complexes of (I) also have increased solubility.
0/0

L17 ANSWER 18 OF 76 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 1989-025676 [04] WPIX
DNN N1989-019557 DNC C1989-011405
TI Dielectric layer compsn. for electrostatic recording medium - contains kaolin of low quartz content forming surface projections functioning as **spacers**.
DC G08 P84 S06 T04
IN HAMADA, K; NAKANO, I; NISHIMURA, Y; YAGI, H
PA (KANZ) KANZAKI PAPER MFG CO LTD; (OJIP) NEW OJI PAPER CO LTD
CYC 6
PI EP 300493 A 19890125 (198904)* EN 14p
R: DE FR GB
JP 01147460 A 19890609 (198929)
JP 01211765 A 19890824 (198940)
US 4931359 A 19900605 (199026)
JP 04054224 B 19920828 (199239) 7p
ADT EP 300493 A EP 1988-111854 19880722; JP 01147460 A JP 1987-306266 19871202; JP 01211765 A JP 1987-186097 19870724; US 4931359 A US 1988-219385 19880715; JP 04054224 B JP 1987-306266 19871202
FDT JP 04054224 B Based on JP 01147460
PRAI JP 1987-186097 19870724; JP 1987-306266 19871202
AB EP 300493 A UPAB: 19950412
A compsn. is claimed for the dielectric layer of an electrostatic recording medium formed on an electroconductive support. The layer contains an insulating resin and a **pigment**. The **pigment** is kaolin (I) or kaolin and at least one other **pigment** (II) chosen partic. from calcium abonate (III), amorphous silica (IV) and aluminium hydroxide (V).
Partic. (I) has a quartz content of not more than 2% by wt. and is the basis of projections on the surface of the layer which have an equivalent **diameter** of 5-15 microns and function as **spacers**.
USE/ADVANTAGE - An electrostatic recording medium suitable for high density devices, printers, plotters, etc. results when the dielectric layer of such a medium contains, as **spacers**, kaolin species having a low quartz content. Excellent **image** recording is achieved with minimum dropout and flare.
1/2
Dwg.1/2

L17 ANSWER 19 OF 76 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 1988-129775 [19] WPIX
DNN N1988-098567 DNC C1988-058268
TI **Display** device - has **spacer** particles obt'd. by adding metal alkoxide to water-alcohol dispersion of metal (hydr)oxide seed.
DC L03 P81 P85 U14
PA (NISH) SHOKUBAI KASEI KOGYO KK
CYC 1
PI JP 63073225 A 19880402 (198819)* 7p
JP 03052047 B 19910808 (199136)
ADT JP 63073225 A JP 1986-219046 19860917; JP 03052047 B JP 1986-219046 19860917
PRAI JP 1986-219046 19860917
AB JP 63073225 A UPAB: 19930923
Metal alkoxide is added to a water-alcohol dispersion liq into which metal (hydr)oxide is dispersed as the seed, while maintaining the alkalinity of the dispersion liq., to be hydrolysed. The metal alkoxide decomposed prod

is attached to the seed, to be grown. The obtd particles are used as the **spacer** of a **display** device.

The alkali for stabilising the dispersion liq., is ammonia gas, ammonia water, sodium hydroxide, amine, quat ammonium salt, etc. The alcohol density of water-alcohol dispersion liquid is 35-97 wt%. Methanol, ethanol, n-propanol, isopropanol, etc. can be used. S USE/ADVANTAGE - The **spacer** has a sharp grain size distribution. Particle **dia** can be controlled. Anticorrosion property of the particles is improved, so that the thickness of the liq crystal layer can be controlled. **Display** device of high quality is obtd.
0/0

L17 ANSWER 20 OF 76 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN

AN 1987-320645 [45] WPIX

CR 1982-86321E [41]

DNN N1987-239906 DNC C1987-136684

TI Flexible polymer film with retortable vapour **barrier** coating - comprising inorganic adhesion layer, pref. of chromium, and **barrier** layer, e.g. of inorganic glass material.

DC A94 L01 P73

IN MATTEUCCI, J S; PHILLIPS, R W; SHEVLIN, C M

PA (OPTI-N) OPTICAL COATING LABORATORY INC

CYC 1

PI US 4702963 A 19871027 (198745)* 11p

ADT US 4702963 A US 1982-367382 19820412

PRAI US 1981-250731 19810403; US 1982-367382 19820412

AB US 4702963 A UPAB: 19931116

An article comprising a flexible polymer substrate (I) with a thin film coating on at least one surface is characterised by substantial transparency to **visible light**, the **barrier** properties of lower gas and vapour permeability, and the capability of withstanding retorting conditions of superheated water or steam sterilisation by maintaining coating adhesion and retaining **barrier** properties.

The film coating comprises a composite of inorganic materials preselected to produce all properties concurrently and comprises a thin film adhesion layer (A) formed directly on the substrate and imparting resistance to retorting conditions, and a thin film **barrier** layer (B) formed on layer (A) to reduce gas and vapour permeability.

Layer (A) is formed from Cr, Ta, Ni, Mo, **oxides** of Cr, alloys of Cr with Ta and Ni, a co-deposited mixt. of Cr and SiO contg. at least 20 wt.% Cr, or a Pb-Al silica glass compsn. Layer (B) is formed from SiO, SiO₂ or mixts. of SiO₂ with a glass modifier from oxides of Mg, Ba and Ca and fluorides of alkaline earth metals.

USE/ADVANTAGE - Useful for packaging, e.g. in pouch form where (I) or (II) is heat-sealable, in the food and medical prods. industry. The packages have sufficient optical transparency that the quality of e.g. N solns. may be checked visually and sufficiently low vapour permeability to permit long term storage, without the need for two bags.

Dwg.0/6

L17 ANSWER 21 OF 76 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN

AN 1985-055954 [09] WPIX

DNN N1985-041838 DNC C1985-024379

TI Image transfer media and diffusion transfer unit - contg. optical **barrier** layer between image receiving layer and light scattering layer.

DC G06 P83

IN PLUMMER, W T

PA (INTP) POLAROID CORP

CYC 1

PI US 4499164 A 19850212 (198509)* 10p
 ADT US 4499164 A US 1984-606580 19840503
 PRAI US 1982-372618 19820428; US 1983-480287 19830330; US 1984-606580 19840503
 AB US 4499164 A UPAB: 19930925
 Image carrying medium comprises a thin transparent layer having a given index of refraction for receiving image forming components; light-absorbing image forming components located in the receiver layer C located at or near the surface away from the external surface from which the medium is viewed; a permanent, hardened, chemically inert clear optical **barrier** layer in contact with the surface of the receiver layer contg. the image (this **barrier** layer having an index of refraction no greater than that of the receiver layer); and a light scattering **pigment** layer in direct contact with the optical **barrier** layer, this layer having an index of refraction above that of the optical **barrier** layer. The medium is constructed so that the image is illuminated for viewing by light reflected from the light scattering layer and through the **barrier** layer, this layer serving to reduce the **light absorption**, thereby brightening the image highlights and improving the tone reprodn.
 Also claimed is an image carrying precursor medium, a diffusion transfer process film and a diffusion transfer image forming process where the image-forming components can cross the **barrier** layer and where the **barrier** layer is impermeable to the **pigments** of the light scattering layer.
 USE/ADVANTAGE - The **barrier** layer minimises non-linear density effects of multiple internal reflections.
 0/5

L17 ANSWER 22 OF 76 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
 AN 1982-86321E [41] WPIX
 CR 1987-320645 [45]
 TI Flexible polymer has transparent bi-component coating - to reduce gas and vapour permeability while withstanding steam.
 DC A94 L01 M13 P73 Q34
 IN MATTEUCCI, J S; PHILLIPS, R; SHEVLIN, C; PHILLIPS, P W; SHEVLIN, C M
 PA (OPTI-N) OPTICAL COATING LABORATORY INC
 CYC 14
 PI GB 2096020 A 19821013 (198241)* 15p
 EP 62334 A 19821013 (198242) EN
 R: AT BE CH DE FR LI LU NL SE
 FR 2503101 A 19821008 (198246)
 DE 3212377 A 19821118 (198247)
 JP 57189848 A 19821122 (198301)
 GB 2096020 B 19850403 (198514)
 CA 1209414 A 19860812 (198637)
 EP 62334 B 19880120 (198803) EN
 R: AT BE CH DE FR LI LU NL SE
 DE 3278017 G 19880225 (198809)
 KR 8904085 B 19891020 (199041)#
 IT 1195919 B 19881103 (199109)
 JP 05018709 B 19930312 (199313) 12p
 DE 3212377 C2 19930715 (199328) 13p
 ADT GB 2096020 A GB 1982-9604 19820401; EP 62334 A EP 1982-102844 19820402; JP 05018709 B JP 1982-55932 19820403; DE 3212377 C2 DE 1982-3212377 19820402
 FDT JP 05018709 B Based on JP 57189848
 PRAI US 1981-250731 19810403; US 1982-367382 19820412
 AB GB 2096020 A UPAB: 19931116
 A flexible polymer substrate has a coating which is substantially transparent to **visible light** and capable of withstanding sterilisation by superheated water or steam and lowers the

gas and vapour permeability of the substrate. The coating is formed of two materials which may be co-deposited to form a single thin film or may be deposited as successive layers.

A co-deposited coating layer can be a cermet layer comprising a mixt. of chromium and SiO contg. at least 10 wt.% Cr, pref. at least 20%. Alternatively an adhesion layer capable of withstanding sterilisation can be overcoated with a **barrier** layer of reduced permeability.

Food and medical products are packed in the coated polymer, e.g. intravenous solns. are packaged in sealed bags. The transparent coating allows viewing of the product to check its quality, unlike aluminium foil currently used.

L17 ANSWER 23 OF 76 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN

AN 1981-67994D [38] WPIX

TI Paper for ink jet recording process - carrying mixt. of white **pigment** and hydrophilic binder, giving clean **images**.

DC F09 P73 P75 T04

PA (SCHO-N) SCHOELLER & CO GMBH EWALD; (SHOL) SCHOELLER F KG; (SHOL) SCHOELLER GMBH & CO KG FELIX

CYC 5

PI BE 888707 A 19810828 (198138)* 19p

DE 3024205 A 19820121 (198204)

FR 2485578 A 19811231 (198206)

NL 8103093 A 19820118 (198206)

US 4474847 A 19841002 (198442)

DE 3024205 C 19870129 (198704)

NL 190244 B 19930716 (199331) 7p

ADT DE 3024205 A DE 1980-3024205 19800627; US 4474847 A US 1983-468559 .. 19830222; NL 190244 B NL 1981-3093 19810626

PRAI DE 1980-3024205 19800627

AB BE 888707 A UPAB: 19930915

A recording paper for use in the ink jet recording process consists of a sized base paper, of surface wt. 40-160 g/sq.m, carrying a dried white mixt. of (a) at least 90 wt.% of a **pigment** and/or filler, with particle **dia.** 0.1-3 mu, and (b) a hydrophilic binder.

The paper may carry 2% of size, and may contain 5-15% of a filler.

(a) Claimed **pigments** are CaCO₃ and Al (hydr)oxide, both opt.

used with other **pigments** and/or fillers. The particle

dia. is esp. 0.5-3 mu. Not more than 40% of kaolin may be

included. Opt., up to 40% of lamellar particles may be present, but pref.

the particles are neither lamellar nor crystalline. The amt. of

pigment is pref. 92-97 wt.%. (b) Binders include

gelatine, casein (claimed), starch (claimed), carboxymethylcellulose,

polyvinyl alcohol, styrene-maleic anhydride copolymers, and alginates. A

crosslinking agent, pref. based on epichlorohydrin or HCHO, is pref.

included, and a plasticiser, e.g. a polyglycol, may be added. One or both

surfaces of the paper may be coated. The coating **wt.** is 5-30

(8-25) g/sq.m. Penetration of the ink to too great a depth may be

prevented by a solvent-impermeable **barrier** layer, e.g. of

polyvinyl alcohol.

Clean, coherent printed **images** are obtd. The printed

characters resist defacement by rapid rubbing. A 0.1-0.4 mm drop of ink

spreads on the surface in not more than 3 seconds.

L17 ANSWER 24 OF 76 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN

AN 1981-44319D [25] WPIX

TI Fluorescent tape for marking documents for machine sorting - with layer or additive blocking incident **light absorption** to increase accuracy.

DC G05 P75 T04

IN HAYES, L J; REDDICK, K L
 PA (RECO-N) RECOGNITION EQUIPMENT INC
 CYC 5

PI DE 3042526 A 19810611 (198125)*
 GB 2064614 A 19810617 (198125)
 SE 8008446 A 19810713 (198131)
 FR 2471282 A 19810619 (198132)
 JP 56111684 A 19810903 (198142)
 JP 59021789 B 19840522 (198424)
 DE 3042526 C 19840614 (198425)
 GB 2064614 B 19840704 (198427)

ADT DE 3042526 A DE 1980-3042526 19801111; GB 2064614 A GB 1980-29185
 19800910; JP 56111684 A JP 1980-142127 19801013

PRAI US 1979-101407 19791210; US 1983-506582 19830622

AB DE 3042526 A UPAB: 19930915

Fluorescent tape consists of a fluorescent **pigment** material (I) applied to a tape base. (I) being treated with a blocking material (II) for blocking the absorption of incident light in the medium on which the (I) and (II)-coating is carried during printing.

(II) is an opaque reflecting metallic material and/or wax-based material (in which the **metal particles** or a mother of pearl-type **pigment** are suspended) and can be applied as second layer over the (I) layer or incorporated in the same layer as (I) to increase its opacity. Suitable particles for (II) consist of Au, bronze, Cu and tints of these colours or mica particles coated with TiO₂ and/or **Fe oxide**.

The tape is useful for coding documents for later electronic (optical) read-out to allow machine sorting. It gives more accurate results than usual.

L17 ANSWER 25 OF 76 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN

AN 1978-59188A [33] WPIX

TI Electrochromic display element - contg. display electrode consisting of transition **metal oxide** thin film or organic cpd. in oxidised or reduced form.

DC A85 L03 P81 P85 V07

PA (SHAF) SHARP KK

CYC 1

PI JP 53077543 A 19780710 (197833)*

PRAI JP 1976-153805 19761220

AB JP 53077543 A UPAB: 19930901

Colour is formed or eliminated by applying electric current to a display electrode consisting of transition **metal oxide** thin film or using organic substance exhibiting different **light absorption** spectra in its oxidised form and reduced form as display electrode and carrying out electrolytic oxidn. or redn. Electric insulating and coloured background is obt'd. by applying an electric insulating resin contg. white and colour **pigment** to the part other than display segments on the display electrode composing the display element.

Electrochromic display cell having optional background can be easily made, which is stable, inexpensive and of high reliability. The cell includes e.g. glass base plates, transparent electroconductive film of In₂O₃ or SnO₂, WO₃ film, **spacer**, electrolytic soln. contg. white **pigment**, and insulation film of screen resin contg. **pigment**. WO₃ film is formed on electroconductive film by sputtering and etched into segment form, and the part other than display letter part is uniformly screen-printed by resin (e.g. epoxy resin, silicon resin, etc.) contg. **pigment** (e.g. TiO₂, BaCrO₄ (yellow), CoO+MOO₃ (blue), etc.) using Tetoron mesh (300 mesh).

L17 ANSWER 26 OF 76 JAPIO (C) 2003 JPO on STN
 AN 2002-082347 JAPIO
 TI LIQUID CRYSTAL DISPLAY (LCD) ELEMENT
 IN KOIKE KATSUHIKO; SAIGO HIROAKI; FUKUDA SHIN
 PA MITSUI CHEMICALS INC
 PI JP 2002082347 A 20020322 Heisei
 AI JP 2000-272584 (JP2000272584 Heisei) 20000908
 PRAI JP 2000-272584 20000908
 SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 2002
 AB PROBLEM TO BE SOLVED: To provide an LCD element having little variation in displaying per pixel and with low power consumption, even when high definition is pursued, to provide an LCD element with a long half-life period of luminance, i.e., with a longer operating life in the case of using a polymer molding as a transparent substrate and to provide an LCD element, having high color purity in the case of forming a color LCD therewith.
 SOLUTION: A transparent conductive thin film laminated body is used as a transparent electrode. Also a gas **barrier** layer 40 is formed on the polymer molding. Furthermore, a **pigment** with a selective **light absorption** function is contained in the transparent substrate 10, in the case of manufacturing the color LCD.
 COPYRIGHT: (C)2002,JPO

L17 ANSWER 27 OF 76 JAPIO (C) 2003 JPO on STN
 AN 2000-323048 JAPIO
 TI **PLASMA DISPLAY** MEMBER AND **PLASMA DISPLAY**
 IN SANADA JUNJI; IGUCHI YUICHIRO
 PA TORAY IND INC
 PI JP 2000323048 A 20001124 Heisei
 AI JP 1999-135718 (JP11135718 Heisei) 19990517
 PRAI JP 1999-135718 19990517
 SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 2000
 AB PROBLEM TO BE SOLVED: To improve blue luminance and **display** quality by forming a blue dielectric layer of a **display** member where an electrode dielectric layer, and a **barrier rib** for partitioning a discharge space, and a luminescent layer for emitting red, green, and blue lights are formed.
 SOLUTION: Preferably, in this **plasma display** member, chromaticity, coordinates (x, y) of a dielectric layer are in a range of $0.05 \leq x < 0.31$, and $0.05 \leq y < 0.32$, the dielectric layer contains 0.05-30 wt.% blue **pigment**, and a **barrier rib** is blue. An address electrode is formed from Ag, Al, Cr, or Ni on a glass substrate. As a forming method, a method where a metallic paste mainly containing their metallic powder and an organic binder is **screen**-printed is used, and thickness of the electrode is preferably 1-10 μm , for example. The dielectric layer is formed by applying glass paste formed by mixing the **pigment**, glass powder, and organic binder to the substrate having the electrode and burning them. The thickness is preferably 4-20 μm , for example.
 COPYRIGHT: (C)2000,JPO

L17 ANSWER 28 OF 76 JAPIO (C) 2003 JPO on STN
 AN 2000-187200 JAPIO
 TI PRODUCTION OF OPAQUE **RIB** STRUCTURE FOR **DISPLAY** PANEL
 IN LABORDE PASCALE; THEMONT JEAN-PIERRE
 PA CORNING INC
 PI JP 2000187200 A 20000704 Heisei
 AI JP 1999-362993 (JP11362993 Heisei) 19991221
 PRAI EP 1998-403244 19981221
 SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 2000

AB PROBLEM TO BE SOLVED: To provide a method for forming opaque **rib** structures for a **plasma** address type liquid crystal **display** which does not leave opaque material films between the **rib** structures by using a micromolding technique.
 SOLUTION: A temporary mask is formed in the plural portions of a substrate 204 surface. A glass paste layer having curable material and **at** least one **pigment** compounded with the inside thereof is deposited to cover the substrate 204 and the temporary mask, by which the **rib** structures consisting of the glass paste are micromolded on the surface of the substrate 204 existing in the regions between the masked portions. Any residual paste material layers existing on the temporary mask are removed and the temporary mask is removed from the substrate 204. The substrate 204 having the micromolded **rib** structures thereon is then baked.
 COPYRIGHT: (C)2000,JPO

L17 ANSWER 29 OF 76 JAPIO (C) 2003 JPO on STN
 AN 2000-133139 JAPIO
 TI **PLASMA DISPLAY** AND MANUFACTURE THEREOF
 IN IGUCHI YUICHIRO; IWANAGA KEIJI; NOURA TAKAHIRO
 PA TORAY IND INC
 PI JP 2000133139 A 20000512 Heisei
 AI JP 1998-301262 (JP10301262 Heisei) 19981022
 PRAI JP 1998-301262 19981022
 SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 2000
 AB PROBLEM TO BE SOLVED: To provide high luminance and high contrast with a small number of processes by forming **barrier ribs** formed of two layers in upper and lower, and setting the difference of the refractive indexes of the upper and the lower layers within a specified range.
 SOLUTION: A front surface plate is formed of a surface glass substrate 1, a discharging electrode 3, a dielectric 2 and a protecting film 4. A back surface plate is formed of a back surface glass substrate 6, a writing electrode 7, **barrier ribs** 5, each phosphor 8, 9, 10 of red, green and blue. The front surface plate and the back surface plate are attached to each other so as to form a **plasma display** panel. The **barrier rib** 5 is formed of two layers of a black A layer 11 and a white B layer 12. The difference of the reflectance indexes of the A layer 11 and the B layer 12 is set **at** 0.1 or less. In order to obtain the remarkable fine **barrier rib** 5 having a high aspect ratio, the photosensitive paste formed of an organic component including the glass particles and the photosensitive polymer is used. As a glass particles, a glass including 2-20 **wt.%** of the alkali metal or the oxide of the alkali metal and having a thermo softening point **at** 600°C or less and a refraction index **at** 1.5-1.7 is used. The black inorganic **pigment** is added to the A layer 11.
 COPYRIGHT: (C)2000,JPO

L17 ANSWER 30 OF 76 JAPIO (C) 2003 JPO on STN
 AN 2000-123744 JAPIO
 TI **PLASMA DISPLAY** PANEL, **PLASMA DISPLAY** BACK PLATE AND THEIR MANUFACTURE
 IN SANADA JUNJI; IGUCHI YUICHIRO; DEGUCHI YUKICHI
 PA TORAY IND INC
 PI JP 2000123744 A 20000428 Heisei
 AI JP 1998-298185 (JP10298185 Heisei) 19981020
 PRAI JP 1998-298185 19981020
 SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 2000
 AB PROBLEM TO BE SOLVED: To reduce or resolve the residual **barrier rib** charges accumulated in discharge cells, to eliminate the

residual **barrier rib** charges causing an abnormal discharge, to prevent the abnormal discharge and to improve reliability by containing conductive grains in multiple **barrier ribs** provided in parallel with address electrodes between multiple address electrodes.

SOLUTION: A dielectric layer 22 covering phosphor layers provided between **barrier ribs** 23 and/or address electrodes A1, A2, A3 preferably contains conductive grains 30. The conductive grains 30 are preferably metal grains, and the metal grains are made of Ni or Cr or an alloy containing Ni or Cr, and the average grain size is preferably set to 1-8 μm . The percentage content of the metal grains in the

barrier ribs or a phosphor layer is set to 0.5-5 wt.%, the conductive grains 30 are made of a conductive oxide, the conductive oxide is a semiconductor doped with impurities in a **metal oxide**, and the **metal oxide** is

preferably an indium oxide, a tin oxide or a titanium oxide.

COPYRIGHT: (C)2000,JPO

L17 ANSWER 31 OF 76 JAPIO (C) 2003 JPO on STN

AN 2000-021314 JAPIO

TI **PLASMA DISPLAY** MEMBER

IN KAJIYAMA TATSUYA; IGUCHI YUICHIRO; UCHIDA TETSUO

PA TORAY IND INC

PI JP 2000021314 A 20000121 Heisei

AI JP 1998-183838 (JP10183838 Heisei) 19980630

PRAI JP 1998-183838 19980630

SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 2000

AB PROBLEM TO BE SOLVED: To prevent the occurrence of halation, and to

provide a high **display** grade by successively forming a dielectric layer A composed of a black layer having specific optical density and a dielectric layer B composed of a white layer having the specific total light beam reflectance on a board.

SOLUTION: A **plasma display** member is manufactured by successively forming at least an electrode layer, a dielectric layer A composed of a black layer having optical density (an OD value) not less than 0.5, a dielectric layer B composed of a white layer having the total light beam reflectance not less than 40%, a **barrier** plate and a phosphor layer on a base material. The dielectric layer A contains glass having a glass transition point of 400 to 550 $^{\circ}\text{C}$ and a softening point of 400 to 600 $^{\circ}\text{C}$ by 50 to 98 wt.% and a black **pigment** by 2 to 50 wt.%. The dielectric layer B contains glass having a glass transition point of 450 to 550 $^{\circ}\text{C}$ and a softening point 500 to 600 $^{\circ}\text{C}$ by 50 to 90 wt.% and a white filler by 10 to 50 wt.%, and the average particle size of the white filler is set to 0.15 to 5.00 μm . The thickness total of the dielectric layers A, B is desirably about 1.1 to 5.0 times a thickness of the electrode layer.

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L17 ANSWER 32 OF 76 JAPIO (C) 2003 JPO on STN

AN 1999-338128 JAPIO

TI PHOTSENSITIVE RESINOUS COMPOSITION

IN TAKAGI YOSHIHIRO

PA FUJIFILM OLIN CO LTD

PI JP 11338128 A 19991210 Heisei

AI JP 1998-143138 (JP10143138 Heisei) 19980525

PRAI JP 1998-143138 19980525

SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1999

AB PROBLEM TO BE SOLVED: To provide a photosensitive resinous compsn. and a preparation method thereof which can form a **rib** having good transparency to visible light, improved curing property at the lower part of the **rib**, good adhesiveness to a profile and a

rib forming base, high density and an aspect ratio of >3 .
 SOLUTION: A photosensitive resinous compsn. is characterized in that it comprises **at least** a photoresist contg. **at least** an ethylenic unsatd. compd., a sensitizing **pigment** and a radical polymerization initiator and **at least** inorg. particles having an average particle **diameter** of $0.01-10 \mu\text{m}$. A method for forming a **rib** is characterized in that the photosensitive resinous compsn. is provided as a layer on a base for a **plasma display** and that exposing from the back side of the base and exposing from the front side of the base are carried out **at least once** respectively.
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L17 ANSWER 33 OF 76 JAPIO (C) 2003 JPO on STN
 AN 1999-306962 JAPIO
 TI MANUFACTURE OF **PLASMA DISPLAY**
 IN NOURA TAKAHIRO; IGUCHI YUICHIRO; IWANAGA KEIJI
 PA TORAY IND INC
 PI JP 11306962 A 19991105 Heisei
 AI JP 1998-106460 (JP10106460 Heisei) 19980416
 PRAI JP 1998-106460 19980416
 SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1999
 AB PROBLEM TO BE SOLVED: To attain high luminance contrast with high yield by means of a small number of processes by forming a lower **barrier rib** layer on a substrate, forming a black **barrier rib** material layer on a flat support, transferring it onto the lower **barrier rib** layer as a black **barrier rib** layer, and burning the black **barrier rib** layer and the lower **barrier rib** layer at the same time.
 SOLUTION: A lower **barrier rib** layer contains glass powder and organic constituents. A black **barrier rib** material layer contains glass powder, black **pigment**, and organic constituents. When the black **barrier rib** material is transferred onto the lower **barrier rib** layer, a **barrier rib** pattern is formed. When transfer is carried out according to a thin film transferring method, a thin film of the black **barrier rib** material is formed on a flat support, and the lower **barrier rib** layer is brought into contact with it. As the thin film, a paste type one or a solid type one may be used. As the flat support, a glass plate/film is used. In the formed **barrier rib** pattern, organic constituents are thermally decomposed on a burning furnace so as to be removed, and simultaneously, the glass constituents are melted and an inorganic **barrier rib** is formed. Usually, burning is carried out in the atmosphere.
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L17 ANSWER 34 OF 76 JAPIO (C) 2003 JPO on STN
 AN 1999-219658 JAPIO
 TI **PLASMA DISPLAY** DEVICE AND ITS MANUFACTURE
 IN SAKAI HISAMITSU; WATADA KAZUO; HANDA SHINICHI; SAKASEGAWA KIYOHIRO; KATO MASAFUMI
 PA KYOCERA CORP
 PI JP 11219658 A 19990810 Heisei
 AI JP 1998-20078 (JP10020078 Heisei) 19980130
 PRAI JP 1998-20078 19980130
 SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1999
 AB PROBLEM TO BE SOLVED: To increase the adhesive property of a phosphor, to allow thick coating and to provide high luminance by forming **barrier ribs** partitioning the space between a back plate and a front plate with a matrix component and hard grains, and exposing

the hard grains on the surface into an irregular shape.
 SOLUTION: Hard grains 2b are contained in a matrix component 2a such as glass and are exposed on the surface of a **barrier rib** 2 into an irregular shape, thus the phosphor 4 applied on the side face of the **barrier rib** 2 hardly flows, the adhesive property to the **barrier rib** 2 is improved, and the phosphor 4 can be applied into a discharge **display** cell 5 at a uniform thickness with a small coated quantity. Low-melting point glass such as lead boro-silicate glass is used for the material of the matrix 2a, and fine grains with the average grain size 0.1-50 μm made of a **metal oxide** such as alumina or zirconia are used for the hard grains 2b. The height of the irregular shape is set to 0.1-50 μm in view of the adhesive property of the phosphor 4 and the strength of the **barrier rib** 2, and the content of the hard grains 2b against the whole **barrier rib** 2 is set to the range of 0.5-75 vol.% in view of the adhesive property and sintering property.
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L17 ANSWER 35 OF 76 JAPIO (C) 2003 JPO on STN
 AN 1999-213898 JAPIO
 TI SUBSTRATE WITH **BARRIER RIB**, MANUFACTURE OF SUBSTRATE WITH THE **BARRIER RIB**, ACID TREATMENT SOLUTION, AND **PLASMA DISPLAY** BACK PLATE
 IN SATO KAZUYA; TANAKA HIROYUKI; NOJIRI TAKESHI; KIMURA NAOKI; SHIMAMURA MARIKO; MURAMATSU YUKIKO; HORIBE YOSHIYUKI; TAI SEIJI
 PA HITACHI CHEM CO LTD
 PI JP 11213898 A 19990806 Heisei
 AI JP 1998-17100 (JP10017100 Heisei) 19980129
 PRAI JP 1998-17100 19980129
 SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1999
 AB PROBLEM TO BE SOLVED: To provide a **plasma display** panel back plate which is superior in emission luminance, free of color difference, and having high hue precision by setting the content of an alkali metal or alkali earth metal on the surface to a specified value or less.
 SOLUTION: The content of an alkali metal or alkali earth metal on the surface of a substrate is set to 2 wt.% or less. The substrate is manufactured by providing a pattern consisting of a **barrier rib** material prior to baking, and performing an acid treatment. As the **barrier rib** material, for example, a mixture of an organic polymer binder, a hardener having a functional group such as vinyl group, an organic solvent, an inorganic **pigment**, and an inorganic binder is included. The **barrier rib** material is patterned on the substrate by means of **screen** printing and baked. Examples of the acid used for the acid treatment include an organic acid such as formic acid, an inorganic acid such as sulfuric acid and the like. The acid treatment is performed by the use of these acids as they are or using a solution of the acid dissolved in a suitable solvent such as water. In this case, the acid concentration is desirably set to 0.1-50 wt.%.
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L17 ANSWER 36 OF 76 JAPIO (C) 2003 JPO on STN
 AN 1999-016500 JAPIO
 TI **PLASMA DISPLAY** AND ITS MANUFACTURE
 IN IGUCHI YUICHIRO; MASAKI YOSHIKI; IWANAGA KEIJI
 PA TORAY IND INC
 PI JP 11016500 A 19990122 Heisei
 AI JP 1997-167652 (JP09167652 Heisei) 19970624
 PRAI JP 1997-167652 19970624
 SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1999

AB PROBLEM TO BE SOLVED: To enhance contrast, enhance an aspect ratio, and enhance the accuracy of a partition wall by forming a **barrier** wall pattern on a glass substrate, applying black **pigment** including paste to the top of the **barrier rib** pattern, then baking.

SOLUTION: A **barrier** wall is formed in such a way that a layer is formed by applying black **pigment** including paste by various coating methods to the top of a **barrier** wall pattern, and baked together with **barrier rib** in the bottom. After the **barrier rib** pattern is formed, by adding a black **pigment** including paste applying process, contrast is enhanced in one baking process without conducting a positioning process. As the black **pigment** including paste to be applied to the top of the **barrier rib**, black **pigment** containing metal whose oxide is black is used. The black **pigment** is preferable to be glass component containing total 2-20 wt.% metal of Ru, Mn, Ni, Cr, Fe, Co, or an oxide of them.

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L17 ANSWER 37 OF 76 JAPIO (C) 2003 JPO on STN
 AN 1999-007126 JAPIO
 TI **BARRIER FORMING COMPOSITION AND PLASMA DISPLAY**
PANEL FORMED BY USING IT AND ITS MANUFACTURE
 IN KATO ISAO
 PA TOPPAN PRINTING CO LTD
 PI JP 11007126 A 19990112 Heisei
 AI JP 1997-159958 (JP09159958 Heisei) 19970617
 PRAI JP 1997-159958 19970617
 SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1999
 AB PROBLEM TO BE SOLVED: To form a dark color layer having a uniform thickness **at** the upper part of a **barrier**.

SOLUTION: Photosensitive dry film 2 stuck to a base material 1 is partially left. After a lower layer **barrier** forming composition 4A is embedded and is cured **at** a groove part 3 between the photosensitive dry film 2, then the lower layer **barrier** forming composition 4A on the photosensitive dry film 2 is removed and an upper layer **barrier** forming composition 4B where a black **pigment** getting black before or after calcination is added is applied. Then, the upper layer **barrier** forming composition 4B is left only on the lower layer **barrier** forming composition 4A by a photolithographic method, and it is calcined, so that the **barrier** 5 having a black layer 6 which is highly precise and whose thickness is uniform on the upper part is formed.

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L17 ANSWER 38 OF 76 JAPIO (C) 2003 JPO on STN
 AN 1998-306226 JAPIO
 TI ORGANIC AND INORGANIC COMPLEX COLORED FINE PARTICLE, **SPACER** FOR LIQUID CRYSTAL **DISPLAY** ELEMENT AND LIQUID CRYSTAL **DISPLAY** ELEMENT
 IN YAMADA TOICHI; TANAKA SUSUMU
 PA SEKISUI FINECHEM CO LTD
 PI JP 10306226 A 19981117 Heisei
 AI JP 1997-107310 (JP09107310 Heisei) 19970424
 PRAI JP 1997-52855 19970307
 SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1998
 AB PROBLEM TO BE SOLVED: To obtain the subject fine particles excellent in hue stability by including a trialkoxysilyl group-containing **pigment** and an silicon alkoxide.

SOLUTION: The particles having preferably $\leq 10 \mu\text{m}$ particle **diameter** are obtained by adding (A) 1 mol silicon alkoxide (e.g.

at least one kind of silane compound selected from monoalkyltrialkoxysilanes and alkylsilicate dimers) and (B) ≤ 0.4 mol trialkoxysilyl group-containing **pigment** to (D) an organic solvent containing water exceeding hydrolysis amount of 2-1,000 times based on total molar amount of the components A and B in the presence of (C) ammonium ion catalyst in a molar amount of 1-100 times based on total molar amount of the components A and B and subjecting the components A and B to cohydrolysis under stirring of the organic solvent.
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L17 ANSWER 39 OF 76 JAPIO (C) 2003 JPO on STN
AN 1998-289661 JAPIO
TI COLOR **PLASMA DISPLAY** PANEL
IN KAMIOKA ATSUKO; AKIYAMA TOSHIYUKI
PA NEC CORP
PI JP 10289661 A 19981027 Heisei
AI JP 1997-97253 (JP09097253 Heisei) 19970415
PRAI JP 1997-97253 19970415
SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1998
AB PROBLEM TO BE SOLVED: To bring out characteristics of a color filter without lowering visible ray transmissivity of a **display** surface side substrate by providing an electromagnetic field shielding layer constituted of a good electric conductor having **at least** an opening part, and a color filter on the **display** surface side substrate and setting a device to such a structure as covering them with an insulator layer.
SOLUTION: A data electrode 6, a white dielectric layer 7, a partition 9, phosphor layers 8r, 8g, 8b are formed in order on a glass substrate. A discharge cell 10 obtaining each luminescent color is constituted of a dielectric layer 2 which is faced to the data electrode 6 via the **barrier rib** 9 and provided in a **display** front surface substrate 1. An electromagnetic field shielding layer 11 is formed on the **display** front surface substrate 1 using thick film formation technology. After photosensitive resin is applied on the **display** surface side substrate 1, it is exposed and developed so as to be formed into a grid pattern having the approximately same shape as the **display** cell and black **pigment** paste is filled therein and dried. After silver paste is filled therein and dried, it is baked. Each color filter layer in the order of 3r, 3g, 3b is formed on the **display** front surface substrate 1 respectively corresponding to the phosphor layer 8.
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L17 ANSWER 40 OF 76 JAPIO (C) 2003 JPO on STN
AN 1998-208645 JAPIO
TI **PLASMA DISPLAY** PANEL
IN ASANO MASAAKI
PA DAINIPPON PRINTING CO LTD
PI JP 10208645 A 19980807 Heisei
AI JP 1997-12546 (JP09012546 Heisei) 19970127
PRAI JP 1997-12546 19970127
SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1998
AB PROBLEM TO BE SOLVED: To regulate the luminance and the white balance simply.
SOLUTION: In this **plasma display** panel, a front plate 1 and a rear plate 2 are provided parallel and opposing each other, plural cells as a **display** element are formed by **barriers** 3 provided between both members, and phosphor layers 9 are provided **at** the specific positions in the cells. In this case, the **barriers** 3 are formed by a **barrier** material including **at least** one of **pigments** presenting the R, G, and B.

Since an element to regulate the luminance and the white balance of each color is included, the process using an excessive member is not increased, so as to realize a low cost.

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L17 ANSWER 41 OF 76 JAPIO (C) 2003 JPO on STN
 AN 1996-321257 JAPIO
 TI **PLASMA DISPLAY** PANEL **BARRIER** FORMING
 APPLICATION LIQUID, ITS MANUFACTURE, AND **BARRIER** FORMING METHOD
 IN Tabei Tatsuya
 PA DAINIPPON PRINTING CO LTD
 PI JP 08321257 A 19961203 Heisei
 AI JP 1995-124624 (JP07124624 Heisei) 19950524
 PRAI JP 1995-124624 19950524
 SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1996
 AB PURPOSE: To form a defect-free **barrier** forming layer in one run of operation by preparing a coating liquid for formation of PDP **barrier** from a glass powder having a low melting point, fire-resistant filler, binder resin, and solvent, wherein the boiling point of the solvent should be below 150°C at a normal pressure.
 CONSTITUTION: A small quantity of solvent having high boiling point such as di. 2-ethylhexylphthalate is added to a solvent having a low boiling point such as methyl isobutyl ketone, in which a binder resin such as ethyl cellulose is dissolved, and thereto a plasticizer such as polyoxyethylene alkyl phosphate (ester) is added so that a vehicle is produced. and to this vehicle, glass frit, crushed brown alumina, and black **pigment** are added in dispersion so that a coating liquid is provided. An electrode 2 and a dielectric substance layer 3 are formed on a glass board 1 on the back surface of a **plasma display** panel (PDP), and the coating liquid is cast to form a **barrier** forming layer 4. Thereover a resist pattern 7 is formed. followed by sandblasting and baking, and a defect-free **barrier** 8 in good shape is obtained.
 COPYRIGHT: (C)1996,JPO

L17 ANSWER 42 OF 76 JAPIO (C) 2003 JPO on STN
 AN 1996-017345 JAPIO
 TI METHOD FOR FORMING **BARRIER** OF **PLASMA DISPLAY** PANEL
 IN TANAKA KAZUNARI
 PA SUMITOMO KINZOKU CERAMICS:KK
 PI JP 08017345 A 19960119 Heisei
 AI JP 1994-180389 (JP06180389 Heisei) 19940627
 PRAI JP 1994-180389 19940627
 SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1996
 AB PURPOSE: To reduce inclination in forming a **barrier** so as to enhance the yield of phosphor application and a panel **display** characteristic by forming a **barrier** pattern on one of the pair of insulating substrates provided with electrodes, baking the **barrier** pattern for the removal of binder, inverting the substrate on which to form a **barrier**, placing the substrate on a baking base plate, and performing main baking.
 CONSTITUTION: An ultraviolet-setting resin and a solvent are mixed in blended powders consisting of glass frit, Al<SB>2</SB>O<SB>3</SB> powders and black **pigment** composed chiefly of Fe<SB>2</SB>O<SB>3</SB>, Mn<SB>3</SB>O<SB>4</SB>, and CoO, to provide a paste as a **barrier** pattern forming material, the glass frit consisting of PbO<SB>2</SB>, B<SB>2</SB>O<SB>3</SB>, SiO<SB>2</SB>, and Al<SB>2</SB>O<SB>3</SB>. The paste is applied onto an insulating plate 3 where an anode portion or a cathode is formed, and a **barrier** pattern is formed by

photolithography and baked for the removal of binder so as to provide a **barrier** 2. A substrate on which to form the **barrier** 2 is inverted and set on a baking base plate 1. Main baking is performed at a maximum temperature of 560°C to obtain a **barrier**

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L17 ANSWER 43 OF 76 JAPIO (C) 2003 JPO on STN
 AN 1995-146660 JAPIO
 TI MAGNETIC MIGRATION **DISPLAY** ELEMENT
 IN NISHIJIMA YUICHI
 PA NOK CORP
 PI JP 07146660 A 19950606 Heisei
 AI JP 1993-319108 (JP05319108 Heisei) 19931125
 PRAI JP 1993-319108 19931125
 SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1995
 AB PURPOSE: To obtain a magnetic migration **display** element capable of forming a thin film, making the contrast high and improved in resolution by sealing a specific dispersed liquid in a **spacer**.
 CONSTITUTION: The magnetic migration **display** device is constituted so as to seal the dispersed liquid obtained by dispersing resin coated magnetite particles having 5-30μm primary particle **diameter** and white **pigment** particles having 0.5-5μm primary particle **diameter** in a silicone oil dispersion medium having 1-25cSt kinematic viscosity (**at** room temp.) in the **spacer** having 50-200μm **spacer** thickness and composed of a transparent plate for **at** least one side of the **spacer**. The magnetite particles are used after being coated with the resin. And because the magnetite particles are effectively prevented from the spontaneous aggregation of the particles each other by the resin coating, the magnetic migration in the cell face direction (**display** face) is enabled even in thin cell space. Any resin not swelling or not dissolving in the silicone oil can be optionally used as the resin for coating the magnetite particles.
 COPYRIGHT: (C)1995,JPO

L17 ANSWER 44 OF 76 JAPIO (C) 2003 JPO on STN
 AN 1994-134915 JAPIO
 TI THERMALLY COLOR-CHANGEABLE LAMINATE
 IN SHIBAHASHI YUTAKA; YASUDA MICHİYUKI; SUKAI ATSUSHI
 PA PILOT INK CO LTD
 PI JP 06134915 A 19940517 Heisei
 AI JP 1992-311509 (JP04311509 Heisei) 19921027
 PRAI JP 1992-311509 19921027
 SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1994
 AB PURPOSE: To enhance the light fastness of the thermally discoloring layer of a system using a thermally color changeable material developing and losing a color by the giving and receiving reaction of an electron between an electron donating color forming org. compd. and an electron acceptive compd.
 CONSTITUTION: A thermally color-changeable laminate is obtained by laminating a light **barrier** pigment layer 3 wherein light **barrier** pigment selected from metal gloss pigment, transparent titanium dioxide, transparent **iron oxide**, transparent cesium oxide and transparent zinc oxide is fixed to a film forming material in a dispersed state on a thermal discoloring layer 2. Since the light **barrier** pigment layer 3 permitting even a proper quantity of **visible light** to transmit in a degree not obstructing visual sensation, the color change of the thermal discoloring layer 2 is also visually confirmed.
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L17 ANSWER 45 OF 76 JAPIO (C) 2003 JPO on STN
 AN 1992-169037 JAPIO
 TI **PLASMA DISPLAY** PANEL
 IN HASEGAWA YOSHIYUKI
 PA NEC CORP
 PI JP 04169037 A 19920617 Heisei
 AI JP 1990-296074 (JP02296074 Heisei) 19901031
 PRAI JP 1990-296074 19901031
 SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1992
 AB PURPOSE: To obtain uniform emission luminance without an electric current being limited on account of resistance, by making the 1st electrode **display** portions scooped-out shapes, and providing a partial masking layer out of an insulation member covering the 2nd electrodes. CONSTITUTION: Black **pigment** is coated on the inner surface of a front surface base 1, and baking is done, and front surface electrode 3 are formed. Scooped-out windows 14 are provided **at** electrodes 3, and made to be **display** dots. A transparent dielectric layer 5 is formed on electrodes 3, and in addition, black masks 7 are formed between electrodes 3, and black **spacers** 8 are formed by making them meet **at** right angles with electrodes 3. Next, rear surface electrodes 4 are formed **at** the inner surface of a rear surface base 2, and a dielectric layer 6 is formed on electrodes 4, and on it, a black insulation layer 10 is formed. **At** the layer 10, holes 11 are provided **at** positions opposite to the center portions of **display** dots, and electric discharge is made. And black **spacers** 9 are formed by making them meet **at** right angles with electrodes 4. As a result, electric current lamination due to resistance is improved, and the uniform characteristic or luminance is obtained.
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L17 ANSWER 46 OF 76 JAPIO (C) 2003 JPO on STN
 AN 1989-211765 JAPIO
 TI ELECTROSTATIC RECORDING BODY
 IN YAGI HISANORI; NISHIMURA YOSHIHIRO; HAMADA HIROSUKE; NAKANO ISAMU
 PA KANZAKI PAPER MFG CO LTD
 PI JP 01211765 A 19890824 Heisei
 AI JP 1987-186097 (JP62186097 Showa) 19870724
 PRAI JP 1987-186097 19870724
 SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1989
 AB PURPOSE: To prevent generation of dot failure or abnormal dot in a high density recording without requiring electrification treatment on an electrostatic recording body prior to recording by incorporating a specified kaolin as a **spacer** into a dielectric body. CONSTITUTION: Generation of dot failure or abnormal dot in a high density recording is prevented without subjecting an electrostatic recording body prior to recording to electrification treatment. Kaolin 2 contg. $\leq 2\text{wt.}\%$ quartz of $5\sim 15\mu$; equivalent **diameter** is incorporated as **spacer** into a dielectric body layer. Thus, kaolin 2 is contained as **pigment** having a function for keeping a distance $d < SB > 1 < /SB >$ between a multiprobe electrode head 1 and a dielectric body layer of the electrostatic recording body **at** a fixed value. By this constitution, a distinct picture **image** contg. no dot failure nor abnormal dot, nor unevenness of recorded density is obtd. in a high density electrostatic recording without requiring a stage for giving previously a static charge of reverse polarity to the static charge for recording.
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L17 ANSWER 47 OF 76 JAPIO (C) 2003 JPO on STN

AN 1989-032263 JAPIO
 TI ELECTROSTATIC RECORDING BODY
 IN NAKANO ISAMU; NISHIMURA YOSHIHIRO; YAGI HISANORI
 PA KANZAKI PAPER MFG CO LTD
 PI JP 01032263 A 19890202 Heisei
 AI JP 1987-189167 (JP62189167 Showa) 19870729
 PRAI JP 1987-189167 19870729
 SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1989
 AB PURPOSE: To obtain superior **image** density by incorporating **spacers** of **at** least one of Al and Mg hydroxides having $5\sim 15\mu\text{m}$ **diameter** and a **pigment** having a specified specific resistance into a dielectric layer.
 CONSTITUTION: This electrostatic recording body has a dielectric layer contg. **spacers** of **at** least one of Al and Mg hydroxides having $5\sim 15\mu\text{m}$ **diameter** so that the **spacers** become projections by which the gap $d<SB>1</SB>$ between a multi- stylus electrode head 1 and the dielectric layer is kept uniform. In this case, the **spacers** having $5\sim 15\mu\text{m}$ **diameter** are separate particles 2 of Al or Mg hydroxide or may be coagulated bodies 3 of hydroxide particles. The dielectric layer further contains a **pigment** having $\geq 10<SP>6</SP>\Omega\cdot\text{cm}$ specific resistance as an index of insulation. The **pigment** may be a **pigment** surface-treated with alumina or calcium pyrophosphate. Polyvinyl acetate may be used as a resin forming the dielectric layer. The insulating property can be improved and superior recording density is obtd.
 COPYRIGHT: (C)1989, JPO&Japio

L17 ANSWER 48 OF 76 JAPIO (C) 2003 JPO on STN
 AN 1989-000925 JAPIO
 TI **SPACER** FOR LIQUID CRYSTAL ELEMENT
 IN IKEUCHI HIROYUKI; SASAKI MAKOTO
 PA TORAY IND INC
 PI JP 64000925 A 19890105 Showa
 AI JP 1987-157286 (JP62157286 Showa) 19870623
 PRAI JP 1987-157286 19870623
 SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1989
 AB PURPOSE: To obtain **spacers** having a uniform particle size and to improve the sharpness of a **display image** by using carbon fibers which have a substantially round fiber sectional shape and are cut short in a longitudinal direction.
 CONSTITUTION: The **spacers** are formed by using the carbon fibers which consist of a carbon system, have the substantially direction. Since the carbon fibers have the uniform fiber **diameter**, the spacing is precisely obtainable and further, the circumference of two sheets of substrates are sealed by, for example, an epoxy sealing material **at** the time of assembling a liquid crystal cell and the above-mentioned fibers are not thermally deformed **at** the time of heating and pressurizing for the purpose of the sealing. Since the carbon fibers have the black color intrinsic to carbon and are not dyed or colored with a **pigment**, the fibers have the stability to obviate the elution of colors in a liquid crystal or the like. The carbon fibers do not flaw the ITO films or oriented films on the substrates **at** the time of maintaining the cell gap **at** a specified spacing by pressurizing two sheets of the substrates to some extent **at** the time of assembling the cell. The **spacers** having a good contrast ratio, good appearance and uniform particle size are thereby obtd.
 COPYRIGHT: (C)1989, JPO&Japio

L17 ANSWER 49 OF 76 JAPIO (C) 2003 JPO on STN
 AN 1988-073225 JAPIO
 TI **DISPLAY** DEVICE

IN SATO GORO; KOMATSU MICHIO; NISHIDA HIROYASU; TANAKA YOSHIHIRO; KOYANAGI
TSUGUO; MIHARA KEIICHI

PA CATALYSTS & CHEM IND CO LTD

PI JP 63073225 A 19880402 Showa

AI JP 1986-219046 (JP61219046 Showa) 19860917

PRAI JP 1986-219046 19860917

SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1988

AB PURPOSE: To provide a device which can deal with a delicate change in thickness, has a uniform thickness and prevents flocculation of **spacer** particles to each other by incorporating the particles produced by a specific method as the **spacers** therein.
CONSTITUTION: This device contains the particles obtd. by adding metal alkoxide to a liquid water-alcohol dispersion dispersed with **metal oxide** or metal hydroxide as a seed to hydrolyze the dispersion while maintaining the dispersion **at** alkalinity and sticking the resultant product of the metal alkoxide decomposition on the seed to grow the particles as the **spacers**. The **spacers** have a sharp grain size distribution and permit control of the particle **diameter** to optional sizes; in addition, the flocculation of the particles to each other is obviated. The **display** device which can deal with the delicate change in the thickness, has the uniform thickness and prevents the **spacer** particles from being viewed from the outside is thereby obtd.
COPYRIGHT: (C)1988, JPO&Japio

L17 ANSWER 50 OF 76 JAPIO (C) 2003 JPO on STN

AN 1988-036224 JAPIO

TI LIQUID CRYSTAL **DISPLAY** ELEMENT

IN EGUCHI TOSHIYASU

PA VICTOR CO OF JAPAN LTD

PI JP 63036224 A 19880216 Showa

AI JP 1986-180647 (JP61180647 Showa) 19860731

PRAI JP 1986-180647 19860731

SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1988

AB PURPOSE: To provide a **spacer** with liquid crystal molecular orientation to remove orientation defect **at** interface of the liquid crystal molecular orientation films are dispersed and mixed.
CONSTITUTION: Transparent electrodes 9a, 9b are formed on respective opposite faces of transparent glass bases 8a, 8b consisting of float glass or the like and having high smoothness. The electrodes 9a, 9b are constituted of **metal oxide** such as indium oxide and formed on the glass bases 8a, 8b as films with a prescribed pattern by thin film formation technique. Many **spacers** (only 11a, 11b are shown) for oppositely separating the glass bases 8a, 8b with a prescribed gap are mixed into the liquid crystal molecular orientation films 10a, 10b. The **spacers** are obtained by applying a solution into which crystal alumina grains with about 2 μ m **diameter** are dispersed and mixed with a spinner and volatilizing and drying the solution and the surfaces of the **spacers** 11a, 11b are also functioned as the liquid crystal molecular orientation films 10a, 10b by rubbing the resin films coating the surfaces of the **spacer** 11a, 11b and executing orientation processing.
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L17 ANSWER 51 OF 76 INSPEC (C) 2003 FIZ KARLSRUHE on STN

AN 2000:6535030 INSPEC DN A2000-08-8630J-073; B2000-04-8420-035

TI Metal cluster enhanced organic solar cells.

AU Westphalen, M.; Kreibitz, U. (Phys. Inst., Tech. Hochschule Aachen, Germany); Rostalski, J.; Luth, H.; Meissner, D.

SO Solar Energy Materials and Solar Cells (15 Feb. 2000) vol.61, no.1, p.97-105. 17 refs.

Doc. No.: S0927-0248(99)00100-2
 Published by: Elsevier
 Price: CCCC 0927-0248/2000/\$20.00
 CODEN: SEMCEQ ISSN: 0927-0248
 SICI: 0927-0248(20000215)61:1L.97:MCEO;1-Y

DT Journal

TC Experimental; Practical

CY Netherlands

LA English

AB An enhancement of the photovoltaic conversion efficiency of an organic solar cell by incorporation of small metal clusters has been reported recently. The enhancement is explained in terms of resonant **light absorption** in the metal cluster which is accompanied by a strengthened electric field in the vicinity of the particle. It is therefore assumed to be based on an enhanced absorption of the organic dye film. In contrast we will show here that an excited plasmon in a metal cluster is also capable to emit an electron directly in a preferential direction if the particles are placed inside an oriented electrical field like the one existing in the depletion layer of a Schottky junction. Thereby a primary photocurrent is observed in a spectral region without any direct absorption in the organic film. We will present results obtained at a Schottky junction formed at the interface of ITO and zinc phthalocyanine. In order to study the influence of the **metal particles** we evaporated a thin silver film on top of the ITO substrate and tempered the system in a vacuum, thereby forming small separated silver clusters. We investigated the influence of the silver clusters on the optical extinction spectra and on the short circuit photocurrent spectra of such constructed organic solar cells. The experimental data will be discussed using a qualitative energy diagram.

L17 ANSWER 52 OF 76 INSPEC (C) 2003 IEE on STN

AN 1997:5570171 INSPEC DN A9711-8630J-005; B9706-8420-006

TI The photoelectrical interface processes in multilayer-type heterostructures based on II-VI semiconductors compounds and photosynthetic **pigment** [solar cells].

AU Gherghel, M. (Tech. Univ. G. Asachi, Jassy, Romania)

SO Buletinul Institutului Politehnic din Iasi, Sectia I (1996) vol.42, no.1-2, p.123-30. 11 refs.

Published by: Inst. Politeh. Iasi

CODEN: BIMFEC ISSN: 0304-5188

SICI: 0304-5188(1996)42:1/2L.123:PIPM;1-H

DT Journal

TC Practical; Experimental

CY Romania

LA English

AB The studies dealing with the photosynthetic **pigments**, known as chlorophyls (Chl), proved that these organic compounds possess two important properties necessary for a material used in the preparation of an efficient photovoltaic device, namely a strong absorption in the visible range and an activation semiconduction energy of 1...2 eV, where the calculated efficiencies of the photovoltaic devices are maximum. The considerable photoconductor and photovoltaic properties of the microcrystalline chlorophyll thin films (Chl) are mentioned in the literature. On taking into account these above mentioned considerations, we study the influence which a metal/pChl/metal-type Schottky **barrier** structure could have on some tandem-type heterojunctions based on II-VI, III-V semiconductor compounds, with a view to improve their photovoltaic performances. One presents the results of the experimental researches on the study of the photoelectric and photovoltaic behaviour of a tandem-type mixed multilayer heterostructure (a tandem cell system) of the following form: Al/n+nSi-pChl-Cu-nCdS-pCuxS/Cu. The

suggested photovoltaic system is made up of a Schottky **barrier** semiconductor structure of the Al/n+nSi-pChl/Cu type found in interaction with a nCdS-pCuxS type heterostructure and in series with it. The photoelectric characteristics of the Schottky **barrier** made evident in a series of works in this domain (for a metal/pChl/metal-type structure) reveals the important role which could be played by the introduction in the metal/pChl interface region of a n+n-type guard semiconductor structure (with an adjacent surface field) with a view to accomplish the increase of the ϕ_B height of Schottky **barrier** at the metal/pChl interface. We have chosen an Al/n+n polycrystalline Si-type structure (with work function $\phi_{Al} < \phi_{Si}$) which behaving as on non-rectifier contact has the role of inducing the formation of a layer of negative spatial charge accumulation at the Al/pChl interface, thus determining an increase of the interface energetic **barrier** height.

- L17 ANSWER 53 OF 76 INSPEC (C) 2003 IEE on STN
 AN 1996:5266668 INSPEC DN A9612-8245-009
 TI Photoelectrochemical properties of dye-sensitized TiO₂ films containing dispersed gold **metal particles** prepared by sol-gel method.
 AU Zhao, G.; Kozuka, H.; Yoko, T. (Inst. for Chem. Res., Kyoto Univ., Japan)
 SO Journal of the Ceramic Society of Japan (March 1996) vol.104, no.3, p.164-8. 19 refs.
 Published by: Ceramic Soc. Japan
 CODEN: NSKRE2 ISSN: 0914-5400
 SICI: 0914-5400(199603)104:3L:164:PPST;1-1
 DT Journal
 TC Experimental
 CY Japan
 LA English
 AB Effects of gold nanoparticle incorporation on the photoanodic properties were studied for fluorescein-, rose bengal- and nile blue A-deposited TiO₂ film electrodes prepared by the sol-gel method. The incorporation of gold particles decreased the dye-induced photoresponse in the visible region, which was ascribed to the retarded electron transport in the conduction band due to the Schottky **barriers** at titania/gold interfaces. The extent of decrease in photoresponse, however, was the smallest for the electrode sample with rose bengal, whose optical absorption well overlapped the surface plasma resonance of the gold particles. The dipole-dipole coupling between rose bengal molecules and gold particles was thought to enhance the photochemical processes, resulting in smaller reduction in the photoresponse.
- L17 ANSWER 54 OF 76 INSPEC (C) 2003 IEE on STN
 AN 1993:4421291 INSPEC DN A9314-7475-009
 TI Persistent photoconductivity in YBa₂Cu₃O_{6+x} films as a method of photodoping toward metallic and superconducting phases.
 AU Kudinov, V.I.; Chaplygin, I.L.; Kirilyuk, A.I.; Kreines, N.M. (P. Kapitza Inst. of Phys. Problems, Acad. of Sci., Moscow, Russia); Laiho, R.; Lahderanta, E.; Ayache, C.
 SO Physical Review B (Condensed Matter) (1 April 1993) vol.47, no.14, p.9017-28. 89 refs.
 CODEN: PRBMDO ISSN: 0163-1829
 DT Journal
 TC Experimental
 CY United States
 LA English
 AB Persistent photoconductivity (PPC) and metastable photoinduced superconductivity, recently discovered in semiconducting YBa₂Cu₃O_{6+x}, have been investigated over the oxygen content of $0 < x < 1$. Under exposure of

semiconducting $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$ films (x approximately=0.4) to **visible light** their resistance is found to decrease drastically. After interrupting the irradiation the resistance persists at this reduced level provided that the temperature is kept below 270 K. When the illumination dose is increased the semiconductorlike behavior of the films progressively changes to that of a metal and a superconductor. Prolonged irradiation leads to complete loss of resistivity below 5 K and simultaneous growth of a diamagnetic moment in the films, revealing pronounced enhancement of their superconducting properties. A slow relaxation of the PPC state was found only by warming the sample near to room temperature where it could be described by a thermally activated process with an energy **barrier** of approximately 1 eV. The observed phenomena are attributed to photoexcitation of extra mobile holes into CuO_2 planes, allowing a metastable superconducting phase to be initiated. The authors also discuss feasible microscopic mechanisms of PPC in oxygen-deficient Y-Ba-Cu-O films. It is suggested that the photoinduced superconductivity may have applications in fabrication of in situ optically tunable weak-link devices.

- L17 ANSWER 55 OF 76 INSPEC (C) 2003 IEE on STN
 AN 1989:3483298 INSPEC DN A89130226; B89074218
 TI Photoelectrochemical behaviour of n-silicon photoanodes coated with **chromium(III) oxide** films and Cr_2O_3 containing composite layers.
 AU Poznyak, S.K.; Makuta, I.D.; Kulak, A.I. (Inst. of Physico-Chem. Problems, Byelorussian State Univ., Minsk, Byelorussian SSR, USSR)
 SO Solar Energy Materials (June 1989) vol.18, no.6, p.357-64. 27 refs.
 Price: CCCC 0165-1633/89/\$03.50
 CODEN: SOEMDH ISSN: 0165-1633
 DT Journal
 TC Experimental
 CY Netherlands
 LA English
 AB n-Type silicon single crystals coated with Cr_2O_3 -containing composite and/or p- Cr_2O_3 thin films were studied as photoanodes for the electrocatalytic photooxidation of isopropanol in aqueous media. Film deposition was by pyrolysis of organometallic compounds (i.e. chemical vapour deposition) for Cr_2O_3 and by a ceramic technique for the Cr_2O_3 -containing composite. The photocurrent at the heterojunction electrodes illuminated with **visible light** is produced by holes which are photoexcited in n-silicon only. There is no energy **barrier** for minority carriers to be transferred across the n-p heterojunction, so considerable quantum efficiencies of photocurrent are observed. Heterogeneous redox catalysis is responsible for the oxidation of isopropanol with Cr_2O_3 as electrocatalyst. The use of a composite coating makes the photoanode highly stable, kinetics at the electrode/electrolyte interface being a key factor for the stability against photocorrosion.
- L17 ANSWER 56 OF 76 INSPEC (C) 2003 IEE on STN
 AN 1985:2466845 INSPEC DN A85067752; B85039201
 TI Photoelectric properties of ITO/CdS/surfactant aluminum phthalocyanine/Au solar cells.
 AU Lawrence, M.F.; Dodelet, J.P.; Dao, L.H. (Inst. Nat. de la Recherche Sci.-Energie, Varennes, Que., Canada)
 SO Journal of the Electrochemical Society (Dec. 1984) vol.131, no.12, p.2977-84. 33 refs.
 CODEN: JESOAN ISSN: 0013-4651
 DT Journal
 TC Experimental
 CY United States

LA English
 AB A heterojunction solar cell made by sequential electrodeposition of CdS and a surfactant aluminum phthalocyanine, (SAlPc), onto ITO (Nesatron) conductive glass, has been analyzed. **Barrier** formation occurs upon **light absorption** and is related to 'doping' of the organic **pigment** by trapped electrons. When the cell is illuminated with white light, all the band bending occurs in the phthalocyanine, and two mechanisms are at work in relation to current production. The optimum thickness for the CdS and SAlPc layers was found to be 4000 and 2500 AA, respectively. The photovoltaic characteristics of the optimized cell, under an illumination of 50 mW cm⁻², were: Jsc=0.33 mA cm⁻², Voc=0.46 V, ff=0.3, and eta =0.09%. From capacitance measurements a density of N approximately 3*10¹⁷ charge carriers/cm³ was calculated, and the **barrier** parameters were: wo approximately 330 AA and Vo approximately 0.5 V. To illustrate how the junction changes with 'doping' of the organic layer by photogenerated electrons, an energy level diagram of the proposed model is presented.

L17 ANSWER 57 OF 76 INSPEC (C) 2003 IEE on STN
 AN 1981:1622981 INSPEC DN A81013177
 TI A preliminary study of a solar selective coating system using a black cobalt oxide for high temperature solar collectors.
 AU McDonald, G. (Lewis Res. Center, NASA, Cleveland, OH, USA)
 SO Thin Solid Films (15 Sept. 1980) vol.72, no.1, p.83-7. 8 refs.
 CODEN: THSFAP ISSN: 0040-6090
 Conference: International Conference on Metallurgical Coatings. San Diego, CA, USA, 21-25 April 1980
 DT Conference Article; Journal
 TC Application; Experimental
 CY Switzerland
 LA English
 AB A black cobalt oxide (Co3O4) was deposited on a thin interlayer of silver or gold which had been deposited on oxidized stainless steel. The coating absorptance and emittance calculated from reflectance measurements were interdependent functions of the weight of Co3O4 deposited. The Co3O4/noble **metal/oxide** diffusion **barrier** coatings had absorptances greater than 0.90 and emittances of approximately 0.20, even after about 1000 h of exposure at 650 degrees C in air.

L17 ANSWER 58 OF 76 INSPEC (C) 2003 IEE on STN
 AN 1979:1327951 INSPEC DN A79034500
 TI Charge stabilization mechanism in the visual and purple membrane **pigments**.
 AU Warshel, A. (Dept. of Chem., Univ. of Southern California, Los Angeles, CA, USA)
 SO Proceedings of the National Academy of Sciences of the United States of America (June 1978) vol.75, no.6, p.2558-62. 22 refs.
 CODEN: PNASA6 ISSN: 0027-8424
 DT Journal
 TC Theoretical
 CY United States
 LA English
 AB The effects of charged groups of rhodopsin and bacteriorhodopsin on the potential energy surface of their chromophore are examined, taking into account the protein dielectric effect. It is found that the **barriers** for twisting double bonds of an isolated chromophore can be drastically reduced when the chromophore interacts with the protein charges. New types of local minima are found in the ground-state potential surface of the protein-chromophore complex. It is suggested that the absorption of light by rhodopsin and bacteriorhodopsin may be used not only for isomerization about double bonds, but also for trapping such

charge-stabilized intermediates. Both the mechanism of the proton pump system of the purple membrane and the dark reaction of the visual and purple membrane **pigments** are considered. The connection with the mechanism of light energy storage in photobiology is indicated.

L17 ANSWER 59 OF 76 NTIS COPYRIGHT 2003 NTIS on STN
 AN 1975(38):09881 NTIS Order Number: AD-A013 293/6/XAB
 TI Electron Beam Probe Studies of Semiconductor-Insulator Interfaces.
 Special rept.
 Reprint: Electron Beam Probe Studies of Semiconductor-Insulator
 Interfaces.
 AU Bottoms, W. R.; Guterman, D.
 CS Princeton Univ N J Dept of Electrical Engineering
 Sponsor: Air Force Cambridge Research Labs., Hanscom AFB, Mass.
 Sponsor: Defense Advanced Research Projects Agency, Arlington, Va.
 (400734)
 NR AD-A013 293/6/XAB; SR-8; AFCRL-TR-75-0326
 11p; 16 Aug 1974
 NC Contract(s): F19628-72-C-0298, ARPA -2180
 Project(s): AF-2180
 DT Report
 CY United States
 LA English
 AV Pub. in Jnl. of Vacuum Science and Technology, v11 n6 p965-971 Nov/Dec
 74. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S.
 customers); (703)605-6000 (other countries); fax at (703)605-6900; and
 email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road,
 Springfield, VA, 22161, USA.
 NTIS Prices: PC A02/MF A01
 OS GRA&I7520
 AB An electron beam of **diameter** as small as 100 A may be employed
 to study MOS structures, providing information about the surface
 topography (secondary electron imaging), surface chemical composition
 (Auger electron spectroscopy), bulk chemical composition (x-ray
 fluorescence), as well as the structure of interface regions with high
 spatial resolution. The penetration depth of the beam and therefore of
 the excited volume can be altered by adjusting the accelerating voltage
 and the incident angle. **Images** of the internal surfaces of MOS
 structures are formed due to variations in the metal-insulator
barrier height, the semiconductor-insulator **barrier**
 height, defects within the oxide or **at** the interfaces, and
 topography causing localizing high-field conditions. These mechanisms
 give rise to small ac signals in the current induced across the
 structure by the electron beam. These signals may then be amplified and
 used to modulate the intensity on a CRT. Several different structures
 have been observed **at** the interfaces in MOS systems using this
 technique. Electrical measurements and bias thermal stressing
 experiments have been used to determine the nature of the structures
 responsible for observed **images**. (Author)

L17 ANSWER 60 OF 76 COMPENDEX COPYRIGHT 2003 EEI on STN
 AN 2002(50):1020 COMPENDEX
 TI Spectroscopic and dynamic properties of the peridinin lowest singlet
 excited states.
 AU Zigmantas, Donatas (Department of Chemical Physics Lund University Box
 124, S-22100 Lund, Sweden); Polivka, Tomas; Hiller, Roger G.; Yartsev,
 Arkady; Sundstrom, Villy
 SO Journal of Physical Chemistry A v 105 n 45 Nov 15 2001 2001.p 10296-10306
 CODEN: JPCAFH ISSN: 1089-5639
 PY 2001
 DT Journal

TC Theoretical; Experimental

LA English

AB Spectroscopic properties as well as excited state dynamics of the carotenoid peridinin in several solvents of different polarities were investigated by time-resolved fluorescence and transient absorption techniques. A strong dependence of the peridinin lowest excited states dynamics on solvent polarity was observed after excitation into the strongly allowed S2 state. Peridinin relaxes to the ground state within 10 ps in the strongly polar solvent methanol, while in the nonpolar solvent n-hexane a 160 ps lifetime was observed, thus confirming the previous observations revealed by transient absorption spectroscopy in the visible region (Bautista, J.A.; et al. J. Phys. Chem. B 1999, 103, 8751). In addition, the solvent dependence in the near-IR region is demonstrated by a strong negative feature in the transient absorption spectrum of peridinin in methanol, which is not present in n-hexane. This band, characterized by a 1 ps rise time, is ascribed to stimulated emission from an intramolecular charge-transfer (ICT) state. Time-resolved fluorescence data support assignment of this band to the emissive singlet state, whose dynamic characteristics depend strongly on the dielectric strength of the medium. On the basis of all our time-resolved measurements combined with simulations of the observed kinetics, we propose the following model: the initially populated S2 state decays to the S1 state within less than 100 fs for both solvents. Then, the population is transferred from the S1 state to the S0 and ICT states. The S1 → ICT transfer is controlled by a solvent polarity dependent **barrier**. In n-hexane the **barrier** is high enough to prevent the S1 → ICT transfer and only S1 → S0 relaxation characterized by a time constant of 160 ps is observed. An increase of solvent polarity leads to a significant decrease of the **barrier**, enabling a direct quenching of the S1 state by means of the S1 → ICT transfer, which is characterized by a time constant of 148 ps for tetrahydrofuran, 81 ps for 2-propanol, and 11 ps for the most polar solvent methanol. The ICT state is then rapidly depopulated to the ground state. This relaxation also exhibits solvent dependence, having a time constant of 1 ps in methanol, 2.5 ps in 2-propanol, and 3.5 ps in tetrahydrofuran. 38 Refs.

L17 ANSWER 61 OF 76 COMPENDEX COPYRIGHT 2003 EEI on STN

AN 2001(10):4300 COMPENDEX

TI Photodoping of 60K and 90K YBaCuO grain boundary Josephson junctions.

AU Medici, M.G. (Universite de Nice Sophia Antipolis, Nice, Fr); Gilabert, A.; Schmidl, F.; Seidel, P.

MT International Conference on Materials and Mechanisms of Superconductivity High Temperature Superconductors VI.

MO Air Force Office of Scientific Research; Argonne National Laboratory; DANKA; ISSO

ML Houston, TX, USA

MD 20 Feb 2000-25 Feb 2000

SO Physica C: Superconductivity and its Applications v 341-348 (III) 2000. p 1461-1462, Elsevier Science Publishers B.V., Amsterdam, Netherlands
CODEN: PHYCE6 ISSN: 0921-4534

PY 2000

MN 57789

DT Journal

TC Experimental

LA English

AB We have illuminated with UV or **visible light** YBaCuO grain boundary Josephson junctions (GBJJ) of different critical temperatures of the banks (90K and 60K). These GBJJ show both dc Josephson properties (Fraunhofer pattern) and ac Josephson properties (Fiske resonance). From the decrease of the normal state resistance we can estimate the oxygen content of the **barrier** which is lower in the

60K junctions. The relative increase of the critical current by illumination is higher in the 60K than in the 90K junctions. (Author abstract) 5 Refs.

L17 ANSWER 62 OF 76 COMPENDEX COPYRIGHT 2003 EEI on STN
 AN 2000(17):3354 COMPENDEX
 TI Bile sensor: from the lab to the market.
 AU Baldini, Francesco (CNR, Firenze, Italy)
 MT Proceedings of the 1999 Fiber Optics Sensors Technology and Applications.
 MO SPIE
 ML Boston, MA, USA
 MD 20 Sep 1999-22 Sep 1999
 SO Proceedings of SPIE - The International Society for Optical Engineering v 3860 1999.p 144-153
 CODEN: PSISDG ISSN: 0277-786X
 PY 1999
 MN 56298
 DT Journal
 TC Application; General Review; Historical
 LA English
 AB In 1988 the idea of measuring bile in the stomach and in the oesophagus via optical fibres was conceived and patented in collaboration with physicians from the University of Florence. The working principle is based on the spectrophotometric properties of the bile which contains some **pigments** with definite absorption properties. Bilirubin is the main **pigment** and it is characterized by an absorption peak in the blue region: therefore it is possible to detect optically the bile in the stomach by optically detecting bilirubin. The possibility of measuring bile reflux directly measuring the presence of bile represented a winning aspect in comparison with the traditional techniques (pH-metry, cholescintigraphy, bile acid assessment in aspirates); on the contrary the new technique had to overcome the traditional 'cultural' **barriers** constituted by the conservative attitude of clinicians concerning any innovative technology. The realization of the first laboratory prototype demonstrates the feasibility and validity of the proposed optical method. Then many years were necessary to arrive at the definitive and marketable product. The history of Bilitec 2000 is described, with the purpose to stress how a laboratory prototype is still very far from the market. (Author abstract) 26 Refs.

L17 ANSWER 63 OF 76 COMPENDEX COPYRIGHT 2003 EEI on STN
 AN 2000(11):1891 COMPENDEX
 TI Reduction of **copper oxide** thin films with hydrogen plasma generated by a dielectric-**barrier** glow discharge.
 AU Sawada, Yasushi (Matsushita Electric Works, Ltd, Osaka, Jpn); Taguchi, Noriyuki; Tachibana, Kunihide
 SO Japanese Journal of Applied Physics, Part 1: Regular Papers and Short Notes and Review Papers v 38 n 11 1999.p 6506-6511
 CODEN: JAPNDE ISSN: 0021-4922
 PY 1999
 DT Journal
 TC Theoretical; Experimental
 LA English
 AB The reduction behavior of sputtered thin Cu₂O films with hydrogen plasma generated by a dielectric-**barrier** glow discharge was investigated by means of surface characterization and hydrogen plasma diagnosis using the vacuum ultraviolet (VUV) line absorption technique. The reduction model was derived by assuming that the diffusion of atomic hydrogen in the reduced layer is the rate-determining step. This reduction model provides a good approximation of the Cu₂O reduction process. The surface hydrogen concentration estimated from this model is higher by an

order of 10⁵-10⁶ than the hydrogen atom concentration in the plasma phase measured by means of the plasma diagnosis. It is verified that the number of hydrogen atoms transported onto the solid surface satisfactorily agrees with that consumed in the Cu₂O layer. (Author abstract) 20 Refs.

L17 ANSWER 64 OF 76 COMPENDEX COPYRIGHT 2003 EEI on STN
 AN 1998(37):1118 COMPENDEX
 TI Effect of photodoping on the Fiske resonances of YBa₂Cu₃O_x grain boundary Josephson junctions.
 AU Medici, M.G. (Universite de Nice Sophia Antipolis, Nice, Fr); Elly, J.; Razani, M.; Gilabert, A.; Schmidl, F.; Seidel, P.; Hoffmann, A.; Schuller, Ivan K.
 SO Journal of Superconductivity v 11 n 2 Apr 1998.p 225-230
 CODEN: JOUSEH ISSN: 0896-1107
 PY 1998
 DT Journal
 TC Experimental
 LA English
 AB We have expanded our studies on illuminated YBa₂Cu₃O_x grain boundary Josephson junctions (GBJJ) which show both dc Josephson properties (Fraunhofer pattern) and ac Josephson properties (Fiske resonance). Illuminating GBJJs with **visible light** changes the Josephson coupling. This change is characterized by an increase of the critical current and a large shift in the voltage position of the Fiske resonances. This effect is due to persistent photoinduced superconductivity (PPS) of the oxygen-depleted YBa₂Cu₃O_x **barrier**, similar to the PPS found in illuminated oxygen-deficient YBa₂Cu₃O_x thin films. From Fiske resonance experiments in GBJJs of different lengths, it is possible to study the velocity of the electromagnetic wave in the **barrier** and its change after illumination. Information on the parameters of the **barrier**, before and after illumination, is obtained from this study. (Author abstract) 14 Refs.

L17 ANSWER 65 OF 76 COMPENDEX COPYRIGHT 2003 EEI on STN
 AN 1996(37):5112 COMPENDEX
 TI Synthesis of NIR-absorbing monofunctionalized phthalocyanines via copolymer coupling.
 AU Herter, Ralf (Humboldt-Univ. zu Berlin and Technische Fachhochschule Berlin, Berlin, Ger); Senz, Rainier G.; Roeder, Beate
 MT Photochemotherapy: Photodynamic Therapy and Other Modalities.
 MO SPIE - Int Soc for Opt Engineering, Bellingham, WA USA; EOS-The European Optical Society; ELA-The European Laser Association
 ML Barcelona, Spain
 MD 14 Sep 1995-16 Sep 1995
 SO Proceedings of SPIE - The International Society for Optical Engineering v 2625 1996. Society of Photo-Optical Instrumentation Engineers, Bellingham, WA, USA.p 384-385
 CODEN: PSISDG ISSN: 0277-786X
 ISBN: 0-8194-1989-3
 PY 1996
 MN 22465
 DT Conference Article
 TC Experimental
 LA English
 AB The photodynamic therapy (PDT) of cancer is based on the reaction of dyes, light and oxygen in tumorous tissues. Currently mainly two types of photosensitizers left bracket Photofrin II and Hematoporphrine derivatives (HPD) right bracket are used in clinical investigations. But they are still far from being ideal for this purpose as they do not have the required specificity and the absorption maxima do not lie in the ideal region of 760 nm (maximal transmission for human tissue). Because of their

absorption maxima, the high extinction coefficient and the good rate of singlet oxygen generation phthalocyanines (PCs) seem to be good photosensitizers for the photodynamic therapy of cancer. At this time the main problem for the use of PCs is the lack of solubility in physiological media. By partial sulfonation it is in fact possible to increase the hydrophilic attributes, but not seriously the selectivity to tumorous tissue. For these reasons it is absolutely necessary to synthesize monofunctionalized PCs, so that covalent coupling to carrier systems (e.g. monoclonal antibodies) are possible. By the synthesis of PCs via coupling to modified polystyrene as a carrier, it is possible, after linking a phthalodinitrile with a **spacer** (alkylchain C4 and longer) to the polymer to prepare exact defined monofunctionalized PCs. 5 Refs.

- L17 ANSWER 66 OF 76 COMPENDEX COPYRIGHT 2003 EEI on STN
 AN 1989(10):101778 COMPENDEX DN 8910109294
 TI Photoelectrochemical behaviour of n-silicon photoanodes coated with **chromium(III) oxide** films and Cr2O3 containing composite layers.
 AU Poznyak, S.K. (Byelorussian State Univ, Minsk, USSR); Makuta, I.D.; Kulak, A.I.
 SO Sol Energy Mater v 18 n 6 Jun 1989 p 357-364
 CODEN: SOEMDH ISSN: 0165-1633
 PY 1989
 DT Journal
 TC Experimental
 LA English
 AB n-Type silicon single crystals coated with a Cr2O3-containing composite and/or p-Cr2O3 thin films were studied as photoanodes for the electrocatalytic photo-oxidation isopropanol in aqueous media. Film deposition was by the pyrolysis of organometallic compounds (i.e. chemical vapour deposition) for Cr2O3 and by a cermaic technique for the Cr2O3-containing composite. The photocurrent at the heterojunction electrodes illuminated with **visible light** is produced by holes which are photoexcited in n-silicon only. There is no energy **barrier** for minority carriers to be transferred cross the n-p heterojunction, so that considerable quantum efficiencies of the photocurrent are observed. Heterogeneous redox catalysis is responsible for the oxidation of isopropanol with Cr2O3 as the electrocatalyst. The use of a composite coating makes the photoanode highly stable, kinetics at the electrode/electrolyte interface being a key factor for the stability against photocorrosion. (Edited author abstract) 27 Refs.
- L17 ANSWER 67 OF 76 COMPENDEX COPYRIGHT 2003 EEI on STN
 AN 1985(5):60197 COMPENDEX DN 850541231; *85106540
 TI PHOTOELECTRIC PROPERTIES OF ITO/CdS/SURFACTANT ALUMINUM PHTHALOCYANINE/Au SOLAR CELLS.
 AU Lawrence, M.F. (Inst Natl de la Recherche Scientifique-Energie, Varennes, Que, Can); Dodelet, J.P.; Dao, L.H.
 SO J Electrochem Soc v 131 n 12 Dec 1984 p 2977-2984
 CODEN: JESQAN ISSN: 0013-4651
 PY 1984
 DT Journal
 TC Theoretical; Experimental
 LA English
 AB A heterojunction solar cell made by sequential electrodeposition of CdS and a surfactant aluminum phthalocyanine, (SAlPc), onto ITO (indium-titanium oxide) conductive glass, has been analyzed. **Barrier** formation occurs upon **light absorption** and is related to doping of the organic **pigment** by trapped electrons. When the cell is illuminated with white light, all the band

bending occurs in the phthalocyanine, and two mechanisms are at work in relation to current production. To illustrate how the junction changes with doping of the organic layer by photogenerated electrons, an energy level diagram of the proposed model is presented. 33 refs.

L17 ANSWER 68 OF 76 AEROSPACE COPYRIGHT 2003 CSA on STN
 AN 84:033737 AEROSPACE
 DN A85-31687
 TI Photoelectric properties of ITO/CdS/surfactant aluminum phthalocyanine/Au solar cells
 AU LAWRENCE, M. F.; DODELET, J. P.; DAO, L. H. (Quebec, Universite, Varennes, Canada)
 CSS Foreign/Government; Canada
 SO Electrochemical Society, Journal, (Dec 1984) Vol. 131, pp. 2977-2984. Canada. Refs: 33.
 ISSN: 0013-4651
 CY United States
 DT Journal
 LA English

AB A heterojunction solar cell made by sequential electrodeposition of CdS and a surfactant aluminum phthalocyanine, (SALPc), onto ITO (Nesatron) conductive glass, has been analyzed. **Barrier** formation occurs upon **light absorption** and is related to doping of the organic **pigment** by trapped electrons. When the cell is illuminated with white light, all the band bending occurs in the phthalocyanine, and two mechanisms are at work in relation to current production. The optimum thickness for the CdS and SALPc layers was found to be 4000 and 2500 Å, respectively. The photovoltaic characteristics of the optimized cell, under an illumination of 50 mW/sq cm, were: $J(sc) = 0.33$ mA/sq cm, $V(sc) = 0.46$, $ff = 0.3$ and $\eta = 0.09$ percent. From capacitance measurements a density of N of about 3×10 to the 17th charge carriers/cm was calculated, and the **barrier** parameters were: $w(o)$ about 300 Å and $V(o)$ about 0.5V. To illustrate how the junction changes with doping of the organic layer by photogenerated electrons, an energy-level diagram of the proposed model is presented. (AIAA/TIS; Author)

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 AN 2003-0059170 PASCAL
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 TIEN Fundus autofluorescence after selective RPE laser treatment
 TIDE Fundus-Autofluoreszenz nach selektiver RPE-Laserbehandlung
 AU FRAMME C.; SCHUELE G.; BRINKMANN R.; BIRNGRUBER R.; ROIDER J.
 CS Klinik und Poliklinik fuer Augenheilkunde, Klinikum der Universitaet Regensburg, Germany, Federal Republic of; Medizinisches Laserzentrum Luebeck, Germany, Federal Republic of
 SO Der Ophthalmologe, (2002), 99(11), 854-860, 21 refs.
 ISSN: 0941-293X
 DT Journal
 BL Analytic
 CY Germany, Federal Republic of
 LA German
 SL English
 AV INIST-21210, 354000106727650080
 AB Background. The selective RPE laser treatment is a new technique which selectively damages the RPE and avoids adverse effects to the neural retina. A problem is the ophthalmoscopically non-visibility of the laser lesions. The aim of the study was to investigate whether fundus autofluorescence (AF), which is derived from the lipofuscin contained by the RPE cells, is changed due to the RPE damage, and thus may be used for non-invasive treatment control. Methods. A total of 26 patients with

macular diseases, i.e. diabetic maculopathy (DMP), soft drusen maculopathy (AMD) and central serous retinopathy (CSR), were treated with repetitive short laser pulses (800 ns) from a green Nd:YAG laser (parameters: 532 nm, 100 and 50 pulses at 500 and 125 Hz, retinal spot **diameter** 200 .mu.m, pulse energies 70-175 .mu.J). AF was excited by 488 nm and detected by a **barrier** filter at 500 nm (HRA, Heidelberg engineering). Patients were examined by ophthalmoscopy, fluorescein angiography and autofluorescence measurements at various times after treatment (i.e. 1h, 1 and 6 weeks, 3, 6 and 12 months). Results. None of the laser lesions was ophthalmoscopically visible during treatment although fluorescein angiography showed leakage of the irradiated areas. Identification of the lesions was possible by AF imaging showing an intensity decay in the irradiated area in 22 out of 26 patients, predominantly in patients with CSR and AMD. Lesions could be identified as hypoautofluorescent spots 1 h after treatment. During follow-up the laser spots became hyperautofluorescent. In patients with DMP some AF **images** were less helpful due to diffuse edema and larger retinal thickness. Conclusion. Imaging of non-visible selective RPE laser effects can be achieved by AF measurements predominantly in patients without retinal edema. Thus AF may replace invasive fluorescein angiography in many cases to verify therapeutic laser success.

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TIEN Autofluorescence imaging after selective RPE laser treatment in macular diseases and clinical outcome: a pilot study

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SO British journal of ophthalmology, (2002), 86(10), 1099-1106, 36 refs.

ISSN: 0007-1161 CODEN: BJOPAL

DT Journal; Letter

BL Analytic

CY United Kingdom

LA English

AV INIST-1015, 354000104835510100

AB Aim: Selective retinal **pigment** epithelium (RPE) laser treatment is a new technique which selectively damages the RPE while sparing the neural retina. One difficulty is the inability to visualise the laser lesions. The aim of the study was to investigate whether fundus autofluorescence (AF) is changed because of the RPE damage, and thus might be used for treatment control. Additionally, the clinical course of patients with various macular diseases was evaluated. Methods: 26 patients with macular diseases (diabetic maculopathy (DMP), soft drusen maculopathy (AMD), and central serous retinopathy (CSR)) were treated and followed up for at least 6 months. Treatment was performed with a train of repetitive short laser pulses (800 ns) of a frequency doubled Nd:YAG laser (parameters: 532 nm, 50 and 500 pulses at 100 and 500 Hz, retinal spot **diameter** 200 .mu.m, pulse energies 75-175 .mu.J). AF was excited by 488 nm and detected by a **barrier** filter at 500 nm (HRA, Heidelberg Engineering, Germany). Patients were examined by ophthalmoscopy, fluorescein angiography, and autofluorescence measurements at various times after treatment (10 minutes, 1 hour, 1 and 6 weeks, 3, 6, and 12 months). Results: Fluorescein angiography showed leakage from the irradiated areas for about 1 week after treatment. None of the laser lesions was ophthalmoscopically visible during treatment. Identification of the lesions was possible by AF imaging showing an intensity decay in the

irradiated area in 22 out of 26 patients, predominantly in patients with CSR and AMD. lesions could be identified 10 minutes after treatment as hypoautofluorescent spots, which were more pronounced 1 hour later. During follow up the laser spots became hyperautofluorescent. In patients with DMP some AF images were less helpful because of diffuse oedema and larger retinal thickness. in these cases ICG angiography was able to confirm therapeutic success very well. Most of the patients have had benefit from the treatment, with best results obtained for CSR patients. Conclusion: Imaging of non-visible selective RPE laser effects can be achieved by AF measurements predominantly in patients without retinal oedema. Therefore, AF may replace invasive fluorescein angiography in many cases to verify therapeutic laser success. Selective laser treatment has the potential to improve the prognosis of macular diseases without the risk of laser scotomas.

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TIEN Photodoping of 60K and 90 K YBaCuO grain boundary Josephson junctions
Proceedings of the International Conference on Materials and Mechanisms
of Superconductivity High Temperature Superconductors VI. Part III,
Houston, Texas, USA, February 20-25, 2000
AU MEDICI M. G.; GILABERT A.; SCHMIDL F.; SEIDEL P.
SALAMA Kamel (ed.); CHU Wei-Kan (ed.); CHU Paul C. W. (ed.)
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Texas, United States
SO Physica. C. Superconductivity and its applications, (2000),
341-48(PART3), 1461-1462, 4 refs.
Conference: 6 M.sup.2S-HTSC-VI Materials and Mechanisms of
Superconductivity and High Temperature Superconductors. International
Conference, Houston, Texas (United States), 20 Feb 2000
DT Journal; Conference
BL Analytic
CY Netherlands
LA English
AV INIST-145C, 354000093668330230
AB We have illuminated with UV or **visible light** YBaCuO
grain boundary Josephson junctions (GBJJ) of different critical
temperatures of the banks (90K and 60K). These GBJJ show both dc
Josephson properties (Fraunhofer pattern) and ac Josephson properties
(Fiske resonance). From the decrease of the normal state resistance we
can estimate the oxygen content of the **barrier** which is lower
in the 60 K junctions. The relative increase of the critical current by
illumination is higher in the 60 K than in the 90K junctions.

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TIEN Microstructure of a high J.sub.c, laser-ablated
YBa.sub.2Cu.sub.3O.sub.7.sub.-.sub..delta./sol-gel deposited NdGaO.sub.3
buffer layer/(001) SrTiO.sub.3 multi-layer structure
AU YANG Chau-Yun; ICHINOSE Ataru; BABCOCK S. E.; MORRELL J. S.; MATHIS J.
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CS Department of Materials Science and Engineering and Applied
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- Engineering Drive, Madison, WI 53706, United States; Oak Ridge National Laboratory, Oak Ridge, TN 37831, United States
- SO Physica. C. Superconductivity and its applications, (2000), 331(1), 73-78, 15 refs.
- DT Journal
- BL Analytic
- CY Netherlands
- LA English
- AV INIST-145C, 354000092155270090
- AB A YBa.sub.2Cu.sub.3O.sub.7.sub.-.sub..delta. (YBCO) film with a transport critical current density (J.sub.c) value of 1 mA/cm.sup.2 (77 K, 0 T) was grown on a solution deposited NdGaO.sub.3 (NGO) buffer layer on (100) SrTiO.sub.3 (STO). The 25-nm thick NGO buffer layer was dip-coated onto the STO single crystal from a solution of metal methoxyethoxides in 2-methoxyethanol. Pulsed laser deposition (PLD) was used to grow a 250-nm-thick YBCO film on the NGO. The epitaxial relationships are cube-on-cube throughout the structure when the pseudo cubic and pseudo tetragonal unit cells are used to describe the NGO and YBCO crystal structures, respectively: (001) YBCO .dblvert. (001) NGO .dblvert. (001) STO and [100] YBCO .dblvert. [100] NGO .dblvert. [100] STO. High resolution scanning electron microscopy (SEM) of the bare NGO surface revealed .eqvsim. 40 nm **diameter** pinholes with number density of .eqvsim. 2 x 10.sup.1.sup.3 m.sup.-.sup.2, corresponding to an area fraction coverage of 2.5%, in an otherwise featureless surface. Cross-sectional transmission electron microscopy (TEM) showed that these pinholes penetrate to the STO; otherwise the NGO layer was uniformly thick to within approximately .+- 5 nm and defect free. The X-ray diffraction 0- and .omega.-scans indicated that the YBCO film was highly oriented with a full-width-half maximum peak breadth of 1.14.degree. for in-plane and 0.46.degree. for out-of-plane alignment, respectively. The film contained sparse a-axis oriented grains, an appreciable density of (001) stacking faults and apparently insulating second phase precipitates of the type that typically litter the surface of PLD films. All of these defects are typical of YBCO thin films. High-resolution cross-sectional TEM **images** indicate that no chemical reaction occurs **at** the YBCO/NGO interface.
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- AN 2000-0056638 PASCAL
- CP Copyright .COPYRG. 2000 INIST-CNRS. All rights reserved.
- TIEN Metal cluster enhanced organic solar cells
- AU WESTPHALEN M.; KREIBIG U.; ROSTALSKI J.; LUETH H.; MEISSNER D.
- CS Technical University Aachen, 1. Physical Institute, 51056 Aachen, Germany, Federal Republic of; Research Center Juelich, 52425 Juelich, Germany, Federal Republic of; AQR, Forschungszentrum Juelich GmbH, Wendelinusstro.85, 52428 Juelich, Germany, Federal Republic of
- SO Solar energy materials and solar cells, (2000), 61(1), 97-105, 17 refs. ISSN: 0927-0248
- DT Journal
- BL Analytic
- CY Netherlands
- LA English
- AV INIST-18016, 354000081489840100
- AB An enhancement of the photovoltaic conversion efficiency of an organic solar cell by incorporation of small metal clusters has been reported recently [1]. The enhancement is explained in terms of resonant **light absorption** in the metal cluster which is accompanied by a strengthened electric field in the vicinity of the particle. It is therefore assumed to be based on an enhanced absorption of the organic dye film. In contrast we will show here that an excited

plasmon in a metal cluster is also capable to emit an electron directly in a preferential direction if the particles are placed inside an oriented electrical field like the one existing in the depletion layer of a Schottky junction. Thereby a primary photocurrent is observed in a spectral region without any direct absorption in the organic film. We will present results obtained at a Schottky junction formed at the interface of ITO and zinc phthalocyanine. In order to study the influence of the **metal particles** we evaporated a thin silver film on top of the ITO substrate and tempered the system in a vacuum, thereby forming small separated silver clusters. We investigated the influence of the silver clusters on the optical extinction spectra and on the short circuit photocurrent spectra of such constructed organic solar cells. The experimental data will be discussed using a qualitative energy diagram.

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TIEN High-T.sub.c ramp-edge junctions and dc SQUIDS with a Ga-doped YBCO **barrier**
Papers presented at the International Superconductive Electronics Conference, Berkeley, California, 21-25 June 1999
AU SONG I.-H.; LEE E.-H.; YOON S.-Y.; PARK G.
CS Microelectronics Laboratory, Samsung Advanced Institute of Technology, PO Box 111, Suwon 440-600, Korea, Republic of; Department of Physics, Sogang University, CPO Box 1142, Seoul 100-611, Korea, Republic of
SO Superconductor science & technology, (1999), 12(11), 795-797, 8 refs.
Conference: International Superconductive Electronics Conference, Berkeley, California (United States), 21 Jun 1999
ISSN: 0953-2048
DT Journal; Conference
BL Analytic
CY United Kingdom
LA English
AV INIST-21939, 354000080158030310
AB We report on high-T.sub.c ramp-edge junctions and dc superconducting quantum interference devices (SQUIDS) with a Ga-doped YBCO **barrier**. The interface resistances of the junctions were drastically reduced by in situ RF **plasma** cleaning treatment. The **plasma** gas and pressure were Ar, O.sub.2 and 50-100 mTorr, respectively. The lattice **images** of the interface of the junctions were analysed by high-resolution transmission electron microscopy. The effects of RF **plasma** treatment and **barrier** layer material on the junction properties were systematically investigated. These junctions were fabricated uniformly and reproducibly, and they displayed clear RSJ-like I-V characteristics with high values of I.sub.c R.sub.n products at 65 K. Dc SQUIDS fabricated with the Ga-doped YBCO junctions exhibited excellent voltage modulations in response to applied fields at 65 K.
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AN 1998-0320968 PASCAL
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TIEN Effect of photodoping on the Fiske resonances of YBa.sub.2Cu.sub.3O.sub.x grain boundary Josephson junctions
AU MEDICI M. G.; ELLY J.; RAZANI M.; GILABERT A.; SCHMIDL F.; SEIDEL P.; HOFFMANN A.; SCHULLER I. K.
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SO Journal of superconductivity, (1998), 11(2), 225-230, 14 refs.
ISSN: 0896-1107

DT Journal

BL Analytic

CY United States

LA English

AV INIST-21987, 354000076943840070

AB We have expanded our studies on illuminated YBa.sub.2Cu.sub.3O.sub.x grain boundary Josephson junctions (GBJJ) which show both dc Josephson properties (Fraunhofer pattern) and ac Josephson properties (Fiske resonance). Illuminating GBJJs with **visible light** changes the Josephson coupling. This change is characterized by an increase of the critical current and a large shift in the voltage position of the Fiske resonances. This effect is due to persistent photoinduced superconductivity (PPS) of the oxygen-depleted YBa.sub.2Cu.sub.3O.sub.x **barrier**, similar to the PPS found in illuminated oxygen-deficient YBa.sub.2Cu.sub.3O.sub.x thin films. From Fiske resonance experiments in GBJJs of different lengths, it is possible to study the velocity of the electromagnetic wave in the **barrier** and its change after illumination. Information on the parameters of the **barrier**, before and after illumination, is obtained from this study.

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TIEN Self-passivated copper gates for amorphous silicon thin film transistors
Active matrix liquid crystal **displays** technology and
applications : San Jose CA, 10-11 February 1997

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SO SPIE proceedings series, (1997), 3014, 62-69, 12 refs.

Conference: Active matrix liquid crystal displays technology and
applications. Conference, San Jose CA (United States), 10 Feb 1997
ISSN: 1017-2653

ISBN: 0-8194-2425-0

DT Journal; Conference

BL Analytic

CY United States

LA English

AV INIST-21760, 354000068088520090

AB A solution to the thin film silicon transistor gate metallization problem in active matrix liquid crystal **displays** is demonstrated in the form of a self-passivation process for copper. Bottom-level copper (Cu) lines are passivated by a self-aligned **chromium oxide** encapsulation formed by surface segregation of chromium (Cr) from dilute Cu.sub.1.sub.-.sub.xCr.sub.x alloys (x=0.1-0.3) at 400.degree.C. The encapsulation is an efficient **barrier** for Cu diffusion into the SiN.sub.x gate insulator during the **plasma** deposition and transistor processing, and solves the problems of oxidation and adhesion to the glass substrate without introducing additional mask steps into the manufacturing process. Gate line resistivities of 4.5 .mu..OMEGA.cm are obtained. The performance of

31/07/2003

self-passivated Cu-gate thin film transistors is comparable to that of transistors with refractory metal gates.